O STATE
VERSITY
MAY 1954
LIBRARY

FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

MAY, 1954

Sub-Surface Ventilation (at Portland, Ore.) to Relieve Smoke-Charged Basement

A CASE · SHEPPERD · MANN PUBLICATION

is Your Community protected

by the MOST EFFECTIVE resuscitating apparatus known to Science?

EMERSON Resuscitators

SIMPLE to operate, with no complicated adjustments.

SAFE for adults, children, or infants. There is no record of lung injury from the pressures used in thousands of cases in more than ten years.

EFFECTIVE The suction phase, alternating with the positive phase, helps circulation and can be of life-and-death importance, especially to victims in shock.

ACCEPTED by the American Medical Association for use by laymen (A.M.A. Journal, May 30, 1942). Relied on from coast to coast by thousands of leading hospitals and fire departments.

Write for our free

Medical Reference on Resuscitation

Information and Demonstration

Bulletin on a New Manual Method of Artificial Respiration

"Simplest and Safest"

J. H. EMERSON COMPANY

32 COTTAGE PARK AVENUE, CAMBRIDGE 40, MASSACHUSETTS

Federal gives double protection for **double the safety!**

Federal is the choice of those who drive and ride America's finest fire apparatus.

Federal Warning Signal's double protection — famous Beacon Ray light and Coaster Siren — actually double the safety of your equipment. The least expensive protection your fine apparatus can have in its swift passage is the Federal Coaster Siren's authoritative roar and the constantly revolving twin-beams of the Federal Beacon Ray light. This double protection is the most reliable on the market; the finest in research, engineering and manufacturing goes into these dependable Federal Signals. Write today for a Federal Siren catalog and Beacon-Ray light bulletin.

Manufactured by the Four Wheel Drive Auto Co. of Clintonville, Wisc., this FWD truck on H R chassis, has 750 g.p.m. pumper with high pressure system—400 g.p.m. at 800 lbs. per sq. in., 800 gal. booster tank and electric rewind hose reels. Protected "all-around" with Federal's warning twins—Coaster Siren and famous Beacon Ray light.

Specify **FEDERAL** on *all* new equipment!

FEDERAL SIGN and SIGNAL CORPORATION

FORMERLY: FEDERAL ENTERPRISES, INC.

8702 S. STATE ST., CHICAGO 19, ILLINOIS

FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING, THE FIRE ENGINEER, FIRE PROTECTION *and* FIRE SERVICE

FRED SHEPPERD
Editor

ROI B. WOOLLEY
Assistant Editor

CONTENTS

Vol. 107 — May, 1954 — No. 5

	Page
With the Editor — By Fred Shepperd	393
How Detroit Uses F. D. Radio — By Paxton Mendelssohn	394
Are We Sitting Ducks for the Integrationists? — By Rod A. Porter	397
Fire Service Ventilation in Theory and Practice — By Roi B. Woolley	399
Fifteen Children Perish in Schoolhouse Built to Burn	404
28 Firemen Hurt in $3 Million Brooklyn Warehouse Fire — A Staff Report	407
Fire Tests in Room of Dwelling Give Data on Gases, Temperature	408
News of the Manufacturers	410
Short Cuts and Gadgets	412
False Alarms	414
Among the Buffs — By Paul C. Ditzel	416
World-Wide Fire News — By Roi B. Woolley	418
Annual Reports Received	421
Obituaries	422
What's Burning?	423
The Watch Desk — By Roi B. Woolley	426
Persons in the News	428
Convention Dates	432
The Round Table — Hydrant Purchase, Repair and Maintenance	436
Questions and Answers	446

MEMBER
Audit Bureau of Circulations
Associated Business Publications

First Cousins and Big Brothers

ONE of the things about FIRE ENGINEERING which is a never-failing wonderment to us who publish it is its broad acceptance and readership.

● Primarily edited and printed for those whose business is fire suppression and prevention, we find that over the years FIRE ENGINEERING has become indispensable not only to fire chiefs in all firemanship brackets — professional, volunteer, private, military and governmental; but it is also read, retained and referred to by so many first "cousins" of the fire service — not alone the ubiquitous "fire buffs," but civic and industrial and other officials whose names mean much in the world's affairs.

● Just to give you an idea — we quote from a letter just received from the general manager of International B. F. Goodrich Corporations, Puerto Rico:

"Recently I had opportunity to peruse an edition of FIRE ENGINEERING and having a desire to obtain a subscription for our company I contacted our good Chief Raul Gandara for his advice.

"Let me take this opportunity of commending your staff on an extremely interesting and informative publication which is of utmost value to those of us who are privileged to associate with men devoted to the fire protection profession.

"Will you please ask your staff to place our corporation on the subscription list at your earliest convenience?"

● And one thing more — when we speak of broad and penetrating influence of this Journal, we do not forget for a minute, the "Big Brothers of the Fire Service"— the manufacturers and distributors of fire apparatus and equipment.

The Publishers

FIRE ENGINEERING

The Journal of the Fire Profession since 1877; published on the fifteenth of each month by Case-Shepperd-Mann Publishing Corp., 24 West 40th Street, New York 18, N. Y., also publishers of *Water Works Engineering*, *Wastes Engineering*, etc. ¶Subscription price: United States and Canada, $3.50 a year; Pan-American and Foreign, $4.50; Single Copies, 10c. ¶Member of Audit Bureau of Circulations and Associated Business Publications, Inc. ¶Entered as second-class matter April 15, 1929, at the Post Office at New York, N. Y., under Act of March 5, 1879.

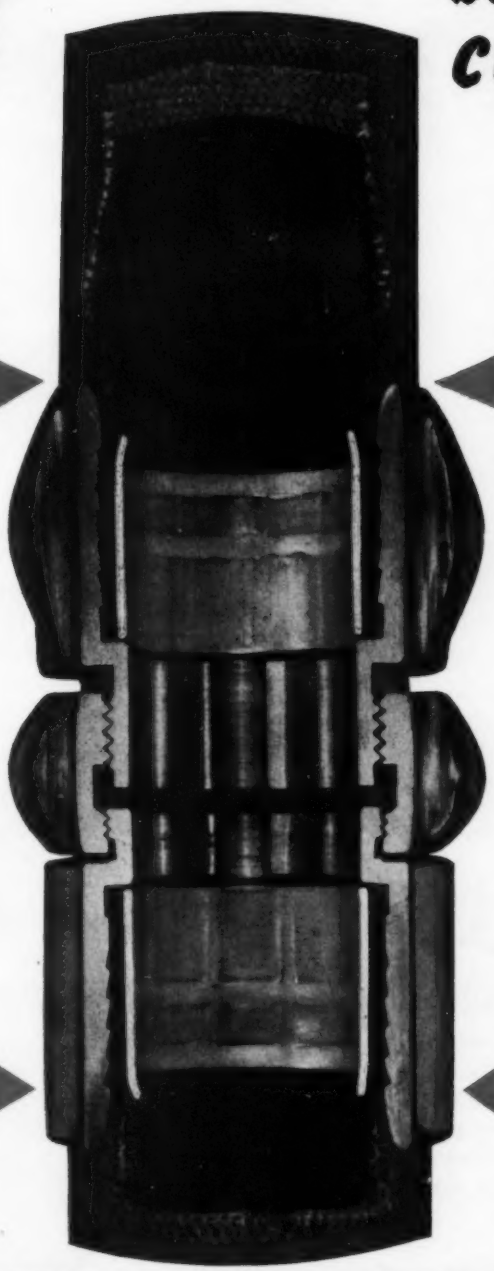
¶Contents of this issue copyrighted, 1954, by Case-Shepperd-Mann Publishing Corp.

President and Advertising Director, KARL M. MANN; Vice-President and General Manager, I. HERBERT CASE; Secretary and Editorial Director, FRED SHEPPERD; Assistant Advertising Director, WALTER H. FREDRICKS; Eastern Representatives, WILLIAM J. GIBSON, ALFRED J. HOUGHTON; CHICAGO OFFICE: L. M. ROCHE, CHARLES E. RUSSELL, RICHARD H. BAUM, 8 So. Dearborn St., Chicago 3, Ill.; LOS ANGELES: AUGUST HAURIN, 6000 Miramonte Blvd., Los Angeles 1, Calif. ¶Printed in U.S.A.

A CASE-SHEPPERD-MANN PUBLICATION
"*Specialized* Leadership"

FABRILON

MG WITH BLOW-PROOF COUPLINGS



TAPERED THROAT

Relieves jacket shearing action under severe pressure surge or shock. Cushions and protects jackets at coupling throat. Contains water hammer. Prevents hose burst at collar.

CRIMPED RING

This heavy gauge ring utilizes powerful expansion pressure while crimp of special design at throat relieves rubber and jacket materials. Prevents deformed and cut linings at ring.

FABRIC 3 LUG PATTERN

DESIGNED FOR FABRILON

MORE G-U-T-S!

The MG coupling will take a terrific amount of punishment. It will not bend or deform under toughest service. Rugged and dependable, it will give long, trouble-free performance.

HI-YIELD BOWL

Coupling bowl made from bronze alloy strengthened by the addition of high yield manganese. Extreme expansion pressure is utilized to insure positive, blow proof bond.

FABRIC FIRE HOSE COMPANY

THE ONLY EXCLUSIVE MANUFACTURER OF FIRE HOSE IN AMERICA

SANDY HOOK CONNECTICUT

IN CANADA BICKLE-SEAGRAVE, LTD. WOODSTOCK, ONTARIO

A "SURE-FIRE CURE"

that pays off in 3 situations—

1 **CALL REPORT**—GRASS AND BRUSH FIRE
Snuffed out by driving around perimeter of fire with man on rear step operating 3XD from pumper tank. Fighting fire "on the move" saves time--conserves water.

2 **CALL REPORT**—FARM BUILDINGS
Saved barn with water drawn from stream the pumper couldn't reach. Used 3XD as booster to pumper.

3 **CALL REPORT**—RESIDENCE
Fire confined to one wing. Left 3XD to pump out basement and a good thing--had another call on arrival at station.

the AMERICAN-MARSH 3XD PUMP

IF YOU GET a lot of calls like these, you'll find the 3XD Auxiliary Pump one of the most useful, valuable pieces of equipment money can buy.

FOR 3 COMMON types of fires, the 3XD will "speed the cure" by adding extra mobility, capacity and versatility to your operation — and at low cost.

FOR DETAILS, WRITE FOR 3XD BULLETIN 8120

Used as mobile pump, booster, or to pump out basements. Supplies two 1½" hose lines with ½" nozzles, or one 2½" line with ¾" nozzle. Handles dirty water without serious damage.

AMERICAN-MARSH PUMPS
BATTLE CREEK MICHIGAN

CANADIAN APPARATUS PLANT: American-Marsh Pumps (Canada), Ltd., Stratford, Ontario

RESEARCH KEEPS **B.F.Goodrich** FIRST IN RUBBER

B. F. Goodrich ends threat of hose blowouts in the coupling area

MOST firemen agree, the coupling area is the danger zone in fire hose. That's where, in ordinary hose, cracks and blowouts occur due to pressure, flexing, strain.

In B. F. Goodrich hose this cause of hose failure has been eliminated by adding an extra layer of hard-woven cords that extends 12″ back from each end of the hose. This extra cushion of cord protects the tube from damage when the hose is being coiled or hooked up. As a result not one single length of B. F. Goodrich hose with end protection has ever failed in the coupling area.

End protection is one big reason why the Covington (Tenn.) Fire Department changed to Fire King. But after using it two years, Chief Thomas Shoaf (center, above) and his men are just as enthusiastic about Fire King's light weight and flexibility. They have found that Fire King gets into action faster and is far easier to handle, whether unloading at a fire or racking the hose back at the station.

Fire King is 15% lighter, much more flexible because of a chemically-produced fiber. B. F. Goodrich uses this fiber as "filler" cords—the cords that go around the hose and give it strength to take on top pressures. Actual service tests prove that Fire King, tested to 600 pounds pressure, is 50% stronger than standard fire hose, which is tested to only 400 pounds.

Next time you're replacing or adding hose, ask your BFG Fire Hose Distributor to show you a sample of Fire King. Compare it with your present hose for light weight, ease of handling and the end protection feature. Prove to yourself that this B. F. Goodrich hose is your best buy. *The B. F. Goodrich Company, Dept. M-239, Akron 18, Ohio.*

B.F.Goodrich
INDUSTRIAL PRODUCTS DIVISION

Fire Fighting POWER

INTERNATIONAL Model R-306 fire truck chassis recently purchased by the Borough of Windber, Pennsylvania, shown with complete fire-fighting equipment, including 1,250 GPM pump, ladders and hose. GVW rating, 30,000 lbs. Wheelbase, 169 inches. Engine, 266-hp. gasoline.

You get an extra measure of what it takes to get to fires fast—and to develop maximum pumping pressure—when you choose INTERNATIONAL fire truck chassis for your fire-fighting equipment.

INTERNATIONAL *specialized* fire truck chassis have extra-high torque in the operating range. This means maximum power when you need it most—for fast starts, for quick acceleration after turns or slow-downs, and for full-pressure, full-capacity pumping.

Many other special features add performance, stamina, and efficiency to INTERNATIONAL fire truck chassis. They have set-back front axles and geometrically perfect steering for easy maneuverability, 12-volt electrical system, chrome manganese frames, extra-capacity brakes, extra-heavy springs—special components everywhere for utmost strength and long life.

INTERNATIONAL specialized fire truck chassis are available in 7 models—pumping capacities from 300 to 1500 GPM. Other INTERNATIONAL chassis may be coordinated to provide fire-fighting equipment for all requirements. Get full details from your INTERNATIONAL Dealer or Branch.

INTERNATIONAL HARVESTER COMPANY • CHICAGO

International Harvester Builds **McCormick®** Farm Equipment and **FARMALL®** Tractors...Motor Trucks...Industrial Power...Refrigerators and Freezers

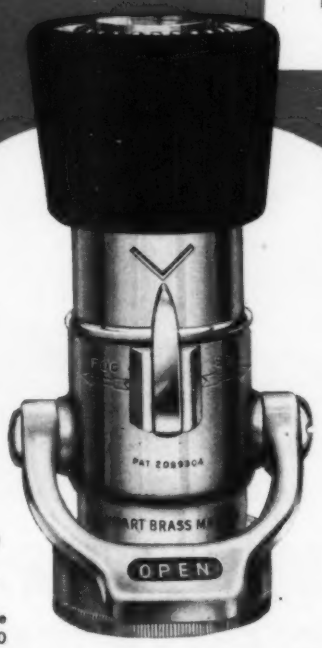
Better roads mean a better America

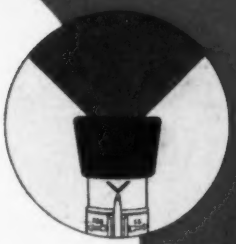
INTERNATIONAL TRUCKS

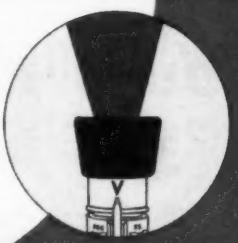
"Standard of the Highway"

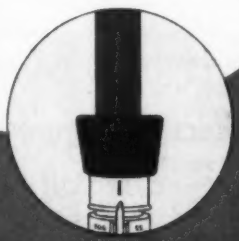
Select-O-Stream

Mystery Nozzle









NEW 1" SIZE

as easy to adjust at high pressure as at low...

In actual tests at nozzle pressures exceeding 500 lbs., the new 1" size demonstrated the same ease in stream adjustment as it did at pressures of 100 lbs. and under — maintaining the excellent patterns of fog and straight stream of the standard Mystery Nozzle.

You get the stream you want—at a finger's touch. And you get it fast. No need to see it... the embossed (Braille-like) Stream indicators "tell" your fingers by touch. The SELECT-O-STREAM *MYSTERY NOZZLE* locks to the stream you choose. Shuts off in any position. Set to turn on in any position. Protective curtain of water at the wide "V"... 30° fog at the standard "V"... Straight Stream at the "I"—and any degree of stream in between. *Be sure to write for literature now!*

***SIZES NOW AVAILABLE*—1"—1½"—2½"**

ELKHART BRASS MFG. CO., Inc.

OVER FIFTY YEARS OF FIRE FIGHTING PROGRESS

ELKHART, INDIANA

WITH THESE EXCITING FEATURES

SET TO ANY STREAM WITHOUT LOOKING
Embossed stream indicators automatically "tell" your fingers—selects the stream

☆

SHUTS OFF IN ANY POSITION

☆

SET TO TURN ON IN ANY POSITION

☆

LOCKS TO THE STREAM YOU CHOOSE

☆

SEPARATE BALL TYPE SHUT OFF
(Brass to neoprene seat)

☆

IMPROVED GRIP—serves as both grip and bumper. Mechanically sealed—it won't come off

GARY, Indiana

buys BIG APPARATUS for BIG EMERGENCIES—

TWO 1500 GPM MAXIM PUMPERS protect this important steel producing city — after all — "when the chips are down" you need real, heavy duty equipment — and MAXIM dependability.

PUMPERS
AERIAL LADDERS
CRASH & RESCUE TRUCKS
THE WORLD'S FINEST—

MAXIM *fire* **APPARATUS**

SINCE 1888
MAXIM MOTOR COMPANY
MIDDLEBORO MASSACHUSETTS

New Jersey Fire Dept. Reports:

Light, compact hose made with Dacron* handles fine when the pressure is on

Note compactness of hose made of "Dacron" (*on left*) as compared with conventional hose (*on right*).

"The real test of any hose is how it handles under pressure, and here's where hose made with 'Dacron' is certainly outstanding," states Chief Alfred W. Wells of the Independence Fire Company No. 1, Palmyra, N. J. "And that's not all—we've used hose made with 'Dacron' for a year and a half and find it stows more compactly and is simpler to rack, too."

"Dacron" polyester fiber is the load-carrying "filling" cord that reinforces the hose. This man-made fiber is light, but extremely strong . . . makes possible a hose with less bulk, yet stronger and more flexible than conventional hose of the same diameter. And, the exceptional water resistance of "Dacron" helps protect against mildew . . . gives longer life to hose.

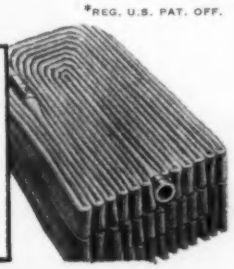
Hose made with "Dacron" has been field-tested for two years under every possible condition, and has clearly proved its superiority. Du Pont makes only the "Dacron" fiber . . . does not manufacture hose. Fire hose made with "Dacron" is produced by a number of leading fire-hose manufacturers. Order it from your supplier next time you need hose. E. I. du Pont de Nemours & Co. (Inc.), Textile Fibers Department, Wilmington 98, Delaware.

*REG. U.S. PAT. OFF.

CHEMICAL PROGRESS WEEK—MAY 17-22

ADVANTAGES OF FIRE HOSE MADE WITH "DACRON":

- Lighter
- Stronger
- More flexible
- Cuts loading time
- Saves space



DACRON

POLYESTER FIBER

DU PONT

REG. U.S. PAT. OFF.

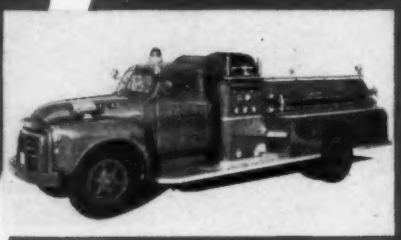
BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

the swing is to

JOHN BEAN'S ORIGINAL HIGH-PRESSURE FOG *system*

More and more fire departments throughout the country are selecting John Bean Original High-Pressure Fog Fire-Fighters—and for good reasons. (1) John Bean high pressure fog gives them triple fire-fighting action — *it cools, it isolates, it smothers.* One gallon of water converted into high pressure fog by the Bean positive displacement pump and patented fog gun is more effective than 10 gallons of water discharged in a conventional solid stream. (2) There's 90% less water damage, because there's 90% less water used. (3) Rugged dependability is designed and built into every part of a John Bean Fire-Fighter. When you consider these facts, you'll want to know more about what the John Bean High-Pressure Fog System can do for *your* community. Write us today!

North Beaver Township, Pennsylvania



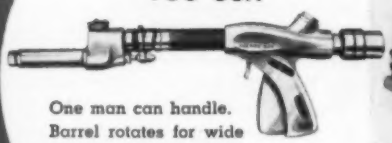
Rockhawk, Illinois

Shelby, New York

East Quogue, Long Island

Kilaweg, Long Island

THE PATENTED BEAN HIGH-PRESSURE FOG GUN



One man can handle. Barrel rotates for wide range of fog patterns. Pistol grip gives instant on-off control.

Grand Traverse County, Michigan

JOHN FMC BEAN

JOHN BEAN DIVISION
Lansing 4, Michigan

JOHN BEAN DIVISION
San Jose 3, California

Original high-pressure fog fire-fighter

Can be mounted on most standard truck chassis

A PRODUCT OF FOOD MACHINERY AND CHEMICAL CORPORATION

You can depend on Pin Point Coordination with Motorola 2-way Radio

Complete Command of All Units Through Radio Communications Means Better Fire Fighting Control

"Round-the-clock" communications are a *must* to modern fire fighting effectiveness. Versatile Motorola systems, first choice of 75% of radio-equipped fire departments, give you complete command of inter-unit and base-to-field coordination at all times.

Motorola's better parts, years ahead design, and precision workmanship insure the finest in fire control communication systems. Eight exclusive improvements give you time-tested durability . . . lowest overall maintenance. The Motorola "Permakay" wave filter eliminates 15 nuisance tuning adjustments *forever!* Let an experienced Motorola engineer in your vicinity give you the complete Motorola 2-Way Radio story.

IMMEDIATE CALL for more equipment meets emergency conditions efficiently and without delay.

DISPATCHER receives call, relays messages to additional units—and help is sent on the way instantly.

national Motorola® RADIO COMMUNICATIONS service

Motorola Communications & Electronics, Inc.

A SUBSIDIARY OF MOTOROLA, INC.

4501 W. Augusta, Chicago 51, Ill. • Rogers Majestic Electronics Ltd., Toronto, Canada

Symbol of Quality-Service-Protection . . . for the modern fire fighter

The famous Midwestern Manufacturing Company trademark is your guide to the finest protective clothing that money can buy—garments that are specifically designed to help safeguard your men's life on every run—enable them to use their equipment to the fullest advantage. Superior quality, design, fabric texture and many exclusive features have made Midwestern Protective Clothing highly favored wherever men fight fires.

- **Exclusive Safety Features**
- **Tailored for Comfort**
- **Softer, More Pliable Materials**
- **Made of Natural Rubber**

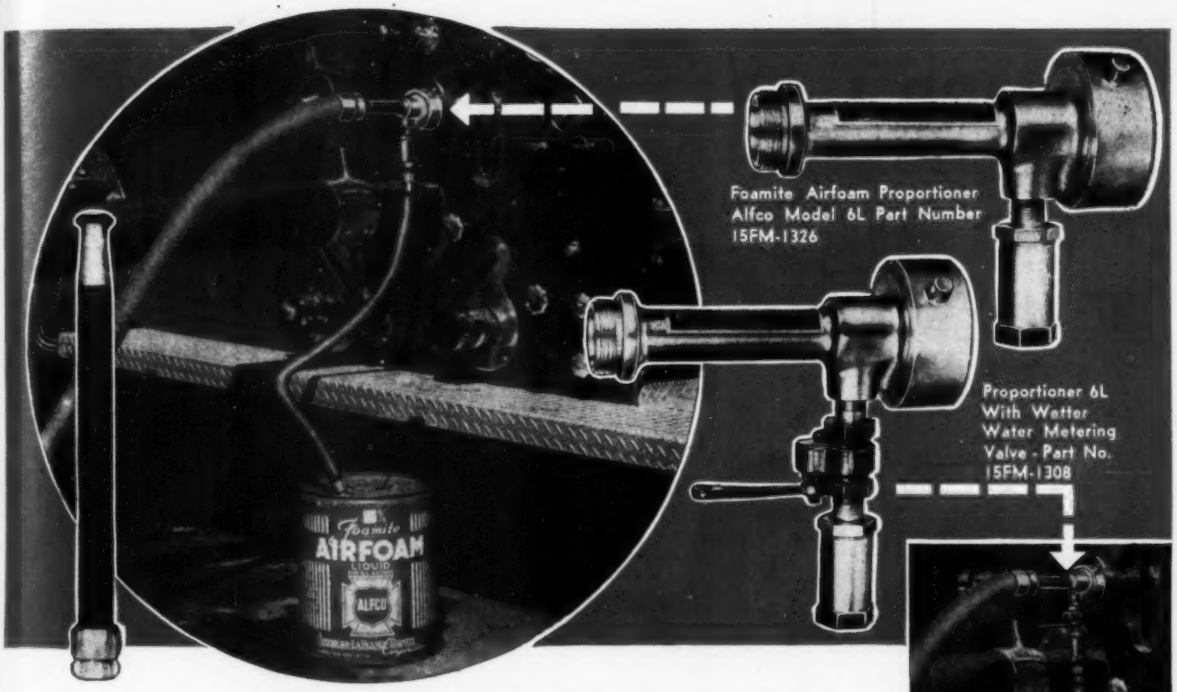
We manufacture both rubber and fabric fire coats. In our vast selection of materials you will find the type of fabric exactly suited to your climate and needs. You can depend on the softness and flexibility of the high grade materials used to meet your most exacting requirements for lasting comfort and service under the most rugged conditions.

For complete information on our full line of firemen's protective clothing, see your Midwestern dealer. A letter to the factory will also bring you literature and material samples for your inspection.

SOME GENUINE WITHOUT THIS TRADE MARK

MIDWESTERN MFG. CO., Mackinaw, Illinois

Manufacturers of the Famous **MACKINAW Coats**



ALFCO PROPORTIONER—

A dual purpose fire-fighting aid

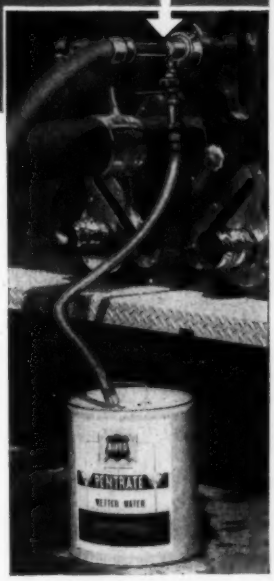
The Alfco Model 6L Proportioner, Part No. 15FM-1308, is available as a dual purpose unit for producing either 6% Foamite Airfoam, or Wetter Water, (Pentrate). It is available also for producing 6% Foamite Airfoam exclusively, as Part No. 15FM-1326, without the Wetter Water Valve. Note the following features:

Attaches to 2½" discharge gate at pumper . . . Drafts 6% Foamite Liquid at Proportioner . . . Airfoam-Generating Nozzle more easily handled without Pickup Tube as operator has greater freedom . . . Frees one fireman for other duties as pumper operator handles liquid containers . . . Wide operating pressure range on 2½" inlet side of Proportioner from 200 to 300 psi.

Up to 400 ft. of 1½" hose can be used on outlet side with excellent operation of Airfoam-Generating Nozzle . . . Operates with any Airfoam Nozzle having same solution capacity as Alfco Model 600 (60 gpm.) . . . Operates with 2 Alfco Model 300 Airfoam-Generating Nozzles with open Siamese for simultaneous discharge . . . Delivers up to 600 gpm. of Foamite Airfoam.

Wetter Water Metering Valve is separate part of unit, and has two positions . . . Open position drafts Airfoam Liquid . . . Closed position drafts Pentrate for making Wetter Water . . . Only necessary to equip 1½" hose line with shut-off nozzle with ½" tip for Wetter Water use.

Check valve prevents back-up of solutions into containers . . . Pickup Tube and hose line easily flushed after using Pentrate . . . Alfco Model 600 Airfoam-Generating Nozzle only accessory needed . . . For exclusive use for Wetter Water, (Pentrate) our standard Pickup Tube assembly needed only, Part No. 3M-1422 . . . Proportioner is brass with chrome plate . . . Valve, red enamel.



Upper left in circle, shows Alfco Foamite Airfoam Proportioner drafting 6% Foamite Airfoam Liquid at the pumper, thus providing operator at the Airfoam-Generating Nozzle more freedom to direct Airfoam stream.

Directly above: same Proportioner, but with Wetter-Water Metering Valve added to assembly, drafting Pentrate to produce Wetter Water stream at the shut-off nozzle. The Metering Valve has two positions. Drafting may be switched quickly to either extinguishing agent. Flush Pickup Tube and hose after use with Wetter Water.

For further information, write, wire, or telephone.
We have representatives in all principal cities.

AMERICAN-LAFRANCE-FOAMITE Corporation
ELMIRA · NEW YORK · U.S.A.
IN CANADA, LAFRANCE FIRE ENGINE & FOAMITE LTD., TORONTO
ALFCO
1954 2nd Century of Leadership in FIRE PROTECTION

WARD LA FRANCE Pumpers

● POLO, ILL. puts into service modern 500 gpm three stage pumper for volume and high pressures. Model 59T, it has a five-man, fully-enclosed cab.

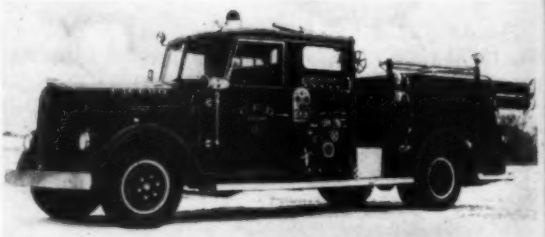
...selected by 3 Illinois cities

These Ward LaFrance Pumpers are the latest additions to the Polo, Cicero and Elgin, Ill. fire departments. Like so many communities, these "prairie state" cities called on Ward LaFrance for new fire-fighting equipment.

Why? Because Ward LaFrance has earned a reputation for building only the finest apparatus. For over 35 years, Ward LaFrance equipment has demonstrated its ability to operate under the most severe fire-fighting conditions.

CALL ON WARD LA FRANCE when your community is ready to bring its fire department up-to-date. Let the Ward LaFrance representative in your area help select the equipment that meets your requirements.

Mid-Western Representative:
M. J. Dalton
140 East Station St.
Barrington, Ill.



● CICERO, ILL. selects two Model 110T pumpers. Both models pump 1000 gpm, have a seven-man canopy, 200 H.P.

● ELGIN, ILL. adds 1000 gpm pumper. Model 130T, it has a 260 H.P. engine.

WARD LaFRANCE
TRUCK CORPORATION

Fire Apparatus Manufacturers for over 35 Years

GENERAL OFFICE & FACTORY: Grand Central Avenue
Elmira, N.Y. Tel. 3-5631

DIRECT FACTORY BRANCH: 139th Street & Bruckner Blvd.,
New York 54, N.Y.
Tel. CYpress 2-3300

EXPORT: Ward LaFrance International, Inc.,
Elmira, N.Y., U.S.A.
Cable Address: "Wardtruck"

Meets the 4 most important Fire-Fighting Hat requirements

...THE M·S·A STREAMLINED FIREMAN'S HELMET

Protection from falling or flying objects, resistance to electric shock, comfort on the job, and durability in service add up to the four-point standard for modern fire-fighting helmets. On each count, the M.S.A. Fireman's helmet has proved its superiority because of these design and material-selection features:

1. IMPACT PROTECTION—The one-piece, laminated construction of the plastic, which is molded under high pressure, takes bumps and blows without passing them on. Reinforced ridge at top aids deflection; sturdy crown hammock cushions blows.

2. DIELECTRIC STRENGTH—A special plastic, selected for its natural resistance to electric shock, is used for the shell construction. Nonabsorbent, this material gives protection that isn't affected by moisture conditions.

3. COMFORT—Very light weight and perfect balance eliminate job fatigue. Soft leather sweatband with sized or adjustable lining permits perfect fit without pressure points. Space between band and hat provide ventilation.

4. DURABILITY—Helmet will not soften or deteriorate when exposed to water or common chemicals. Material and design prevents twisting or warping when exposed to heat.

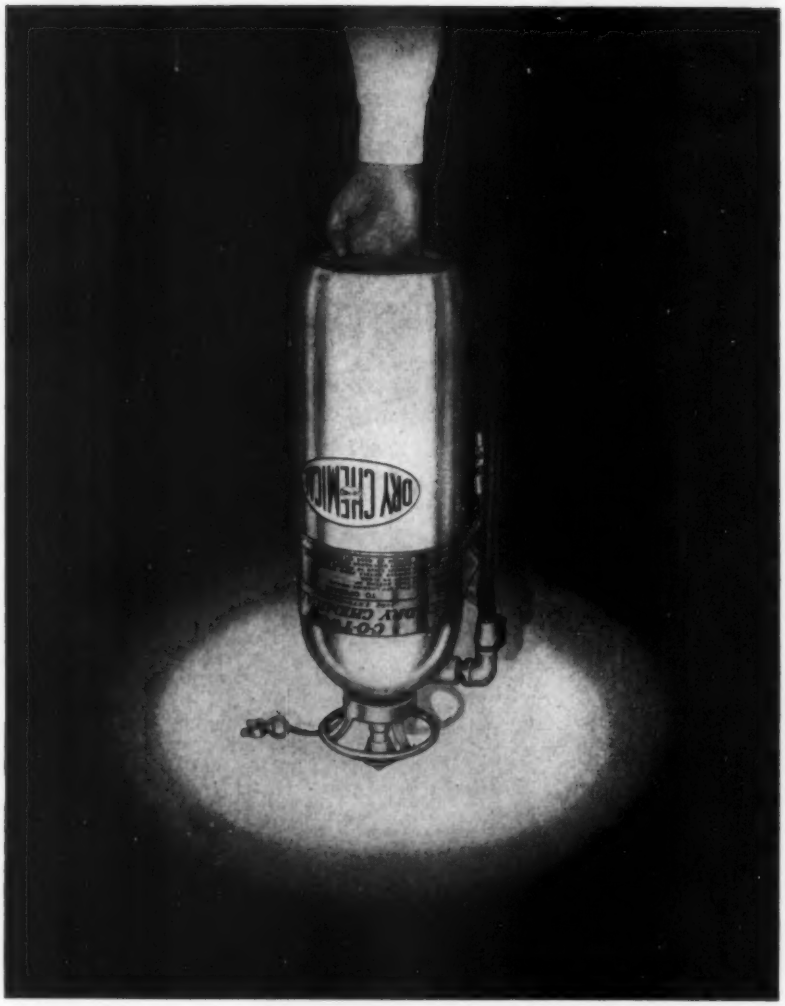
MSA
SAFETY EQUIPMENT HEADQUARTERS

Streamlined design has plenty of eye appeal. Shields are made of full-grained leather in black, white or red. Color combinations available. Easily zipped-in winter linings assure all-weather comfort. Write for details.

MINE SAFETY APPLIANCES COMPANY
201 North Braddock Avenue, Pittsburgh 8, Pa.
At Your Service: 76 Branch Offices in the United States
MINE SAFETY APPLIANCES CO. OF CANADA, LTD.
Toronto, Montreal, Calgary, Edmonton, Winnipeg, Vancouver
Sydney, N.S. • Representatives in Principal Cities
In Mexico, Central and South America
Cable Address: "MINSAF" Pittsburgh

Call the M.S.A. man on your every safety problem . . . his job is to help you

Bump that assures positive results



When fire strikes, seconds count . . . your fire extinguishers must be the right type and function properly from the very start . . . failure means serious losses.

The growing popularity of the highly effective powdered dry chemical fire extinguishing agent may be hampered by a drawback . . . settling or packing can occur after a lapse of time. However, with C-O-TWO Dry Chemical Type Fire Extinguishers there's no chance of this happening.

The exclusive inverting and bumping design of C-O-TWO Dry Chemical Type Fire Extinguishers provides mechanical breakage of the dry chemical by shifting its position in the cylinder. This outstanding mechanical breakage, plus continuous inert gas pressured agitation or fluffing of the skillfully blended free flowing dry chemical, guarantee lasting, foolproof fire protection.

No other brand on the market today gives you this extra margin for positive results. Inverting and bumping is only one of many unique design advantages that make C-O-TWO Dry Chemical Type Fire Extinguishers your best buy for killing flammable liquid and electrical fires, as well as surface fires involving ordinary combustible materials.

With C-O-TWO Dry Chemical Type Fire Extinguishers the heat-shielding dry chemical is a non-conducting, non-abrasive, non-toxic, finely pulverized powder compound . . . blankets fire instantly. Sizes range all the way from 4 to 150 pounds capacity . . . all fully approved by the Underwriters' Laboratories, Inc., Factory Mutual Laboratories and Government Bureaus.

Act now for complete free information on these top quality, sure-acting fire extinguishers. Remember fire doesn't wait . . . get the facts today!

C-O-TWO

MANUFACTURERS OF APPROVED FIRE PROTECTION EQUIPMENT

Squeez-Grip Carbon Dioxide Type Fire Extinguishers
Dry Chemical Type Fire Extinguishers
Built-In High Pressure and Low Pressure Carbon Dioxide Type Fire Extinguishing Systems
Built-In Smoke and Heat Fire Detecting Systems

C-O-TWO FIRE EQUIPMENT COMPANY
NEWARK 1 • NEW JERSEY

C-O-TWO FIRE EQUIPMENT OF CANADA, LTD. • TORONTO 8 • ONTARIO

Sales and Service in the Principal Cities of United States and Canada

AFFILIATED WITH PYRENE MANUFACTURING COMPANY

VITALLY IMPORTANT!

The Last Word (HANNAY) in Hose Reels for Airport Fueling and Fire Fighting Equipment

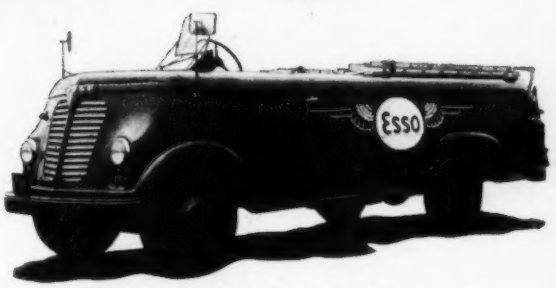
WHETHER THE JOB is fueling or fire fighting, no service or crash truck is better than its hose reel! That's why leading truck builders and airport executives specify HANNAY Hose Reels . . . they KNOW that through the years Hannay has consistently built GOOD reels that can be depended on to do a GOOD job when performance is important . . . in regular service and under stress. You just can't get a better reel than a HANNAY!

Whatever your need, there's a Hannay to meet it ... every type of manual and power-operated Hose Reel for fueling, fire fighting or stationary installation . . . including the new, high-safety-factor explosion-proof electric drive models.

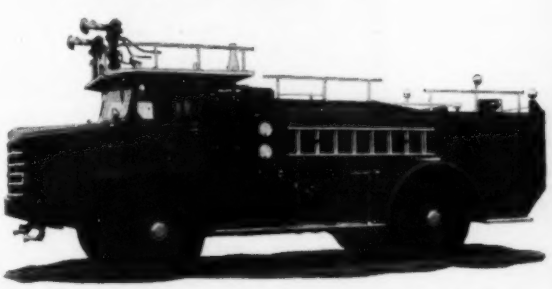
Ask Your Supplier or Write for Information

HANNAY
REG. U.S. PAT. OFF.
HOSE REELS
CLIFFORD B. HANNAY & SON, INC.
WESTERLO, NEW YORK

© 1951 C B H & S, Inc.

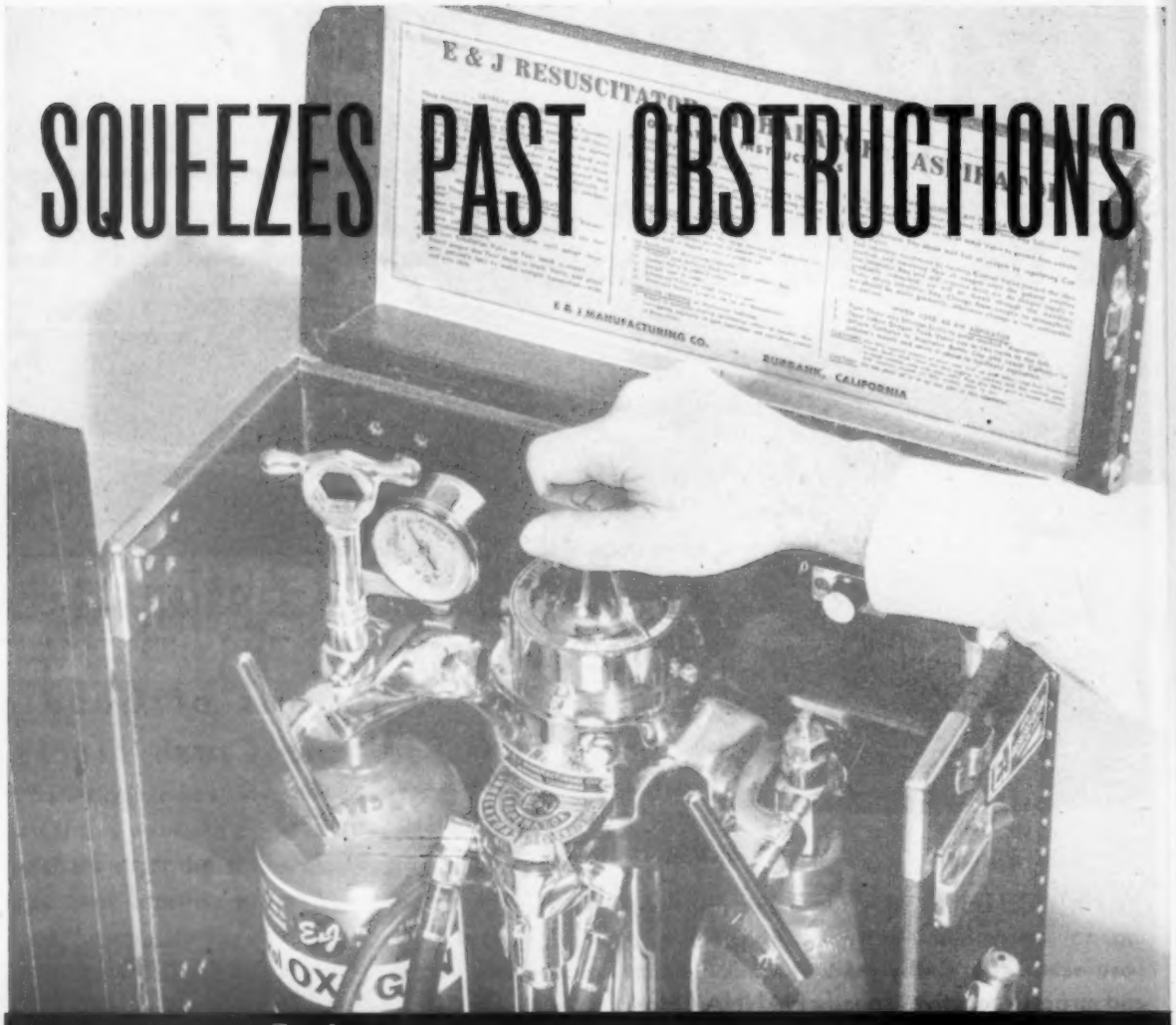


A "Servicer" designed by the Technical Department of Esso Export Corporation for use in conjunction with a hydrant system for dispensing aviation gasoline. Three Hannay Hose Reels, powered by explosion-proof electric motors, are used in this "Servicer" which was built by Couse Manufacturing, Inc.

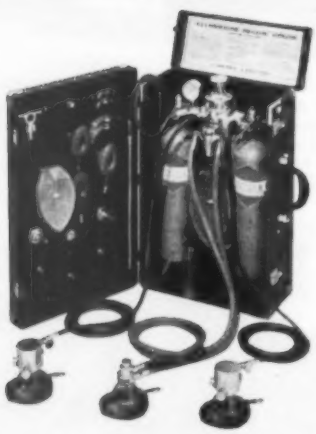


A modern Crash Truck, built by Maxim Motor Company, equipped with four Hannay Hose Reels powered by explosion-proof electric motors.

SQUEEZES PAST OBSTRUCTIONS



E & J RESUSCITATOR - INHALATOR - ASPIRATOR



E&J RESUSCITATOR • ASPIRATOR • INHALATOR

. . . first name in Resuscitators

ACCEPTED COUNCIL ON PHYSICAL MEDICINE and REHABILITATION AMERICAN MEDICAL ASSOCIATION

When partial obstructions will not yield to aspiration, or when the air passages are swollen almost shut, the exclusive E & J feature "Precision Flow Control" assumes life-saving importance in emergency rescue treatment.
With it the operator can quickly find just the exact flow of oxygen that will squeeze past obstructions short of complete blockage to provide full inhalation and exhalation at a *slow but life-saving rate!*

FIND OUT MORE ABOUT THIS VITAL E & J FEATURE . . .
Data and demonstration without obligation.
Write to Dept. 544-7 at address below.

E&J

E&J MANUFACTURING COMPANY

100 E. Graham Place, Burbank, California

Rockwood FogFOAM SpotPROTECTION System automatically drenches loading platform.

How to muzzle a vicious fire hazard

Dangerous, small-area fire hazards can viciously destroy life and nearby property — if not properly protected.

The tank truck loading platform above, for instance, imperils not only the tank trucks being loaded but also the storage tanks in back of it. Should a truck connection break during loading causing a static spark thus igniting a truck, millions of gallons of gasoline would go up in flames.

A Rockwood SpotPROTECTION Fog-FOAM System keeps this hazard muzzled — goes into action within 5 seconds of a fire's start. It cools entire area, blankets platform, controls fire, and protects surrounding area within minutes.

Each Rockwood SpotPROTECTION System is custom engineered to meet individual requirements of hazard. Systems handle WaterFOG, FogFOAM, FOAM or "WET". Three sizes: 2, 4 or 6 Heads. Operated automatically or manually. Automatic operations are for fixed temperature sprinkler type fire detectors or for heat actuated devices. Special Systems also available for use with Rockwood FOAM Maker Chambers.

Find out how these SpotPROTECTION Systems can meet your needs. Mail coupon below.

ROCKWOOD SPRINKLER COMPANY

ROCKWOOD *Engineers Water . . . to Cut Fire Losses*

Rockwood Foam, available in 5-gallon cans or 50-gallon drums, keeps Rockwood FOAM and Rockwood FogFOAM SpotPROTECTION Systems constantly replenished. No replacement problem.

Rockwood "Wet", available in 5 gallon cans or 50 gallon drums, increases penetration and extinguishing power of water. Excellent where fire is deep-seated or water scarce.

SEND FOR THIS INFORMATIVE BOOKLET

ROCKWOOD SPRINKLER COMPANY
Portable Fire Protection Division
265 Harlow Street
Worcester 5, Mass.

Please send me your engineering data sheet on Rockwood SpotPROTECTION Systems.

*Name*_____

*Title*_____

*Company*_____

*Street*_____

*City*_____

*Zone*_____ *State*_____

THE GREATEST SHOWING OF INDUSTRIAL RUBBER PRODUCTS ON EARTH
REPUBLIC
FIRE HOSE
The jackets of Republic Fire Hose, made only of selected yarns, are plain, Provar Processed (mildew and vermin resistant) and waxed, or in any combination. Tubes have long-aging qualities. Five municipal grades, 3 industrial grades (also made with rubber or neoprene covers) and lightweight hose for forestry service are available.

Your Responsibility

. . . is to secure the fire hose that will do the best job of protecting your community.

Our Responsibility

. . . is to provide you with that "right" hose, as we have done for cities all over America for the past 52 years.

One of the 5 grades of Republic Municipal Hose is the "right" hose for you. Your local Republic Distributor can show you which is best for you . . . and can tell you the advantages of plain, waxed or Provar Processed (Republic's exclusive mildew-proofing treatment) Hose. Call him today or write directly to us.

"Quality Hose Builders for More Than 50 Years"

REPUBLIC RUBBER DIVISION

LEE RUBBER & TIRE CORPORATION, YOUNGSTOWN 1, OHIO

INDUSTRIAL RUBBER PRODUCTS

better ENGINEERED for greater SAFETY

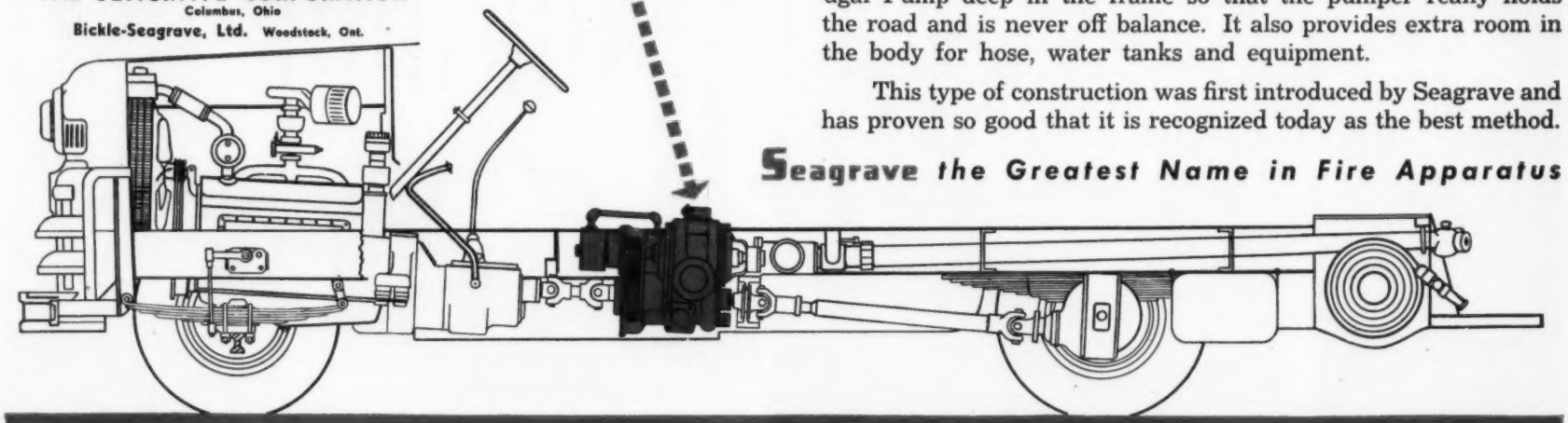
Seagrave

THE FIRST WITH PUMP MOUNTED DEEP IN FRAME

The outstanding safety record of Seagrave Fire Apparatus is not only due to its wonderful, sturdy construction but it is also due to the fact that the trucks have a lower center of gravity. This is achieved by mounting the all-bronze, Seagrave Centrifugal Pump deep in the frame so that the pumper really holds the road and is never off balance. It also provides extra room in the body for hose, water tanks and equipment.

This type of construction was first introduced by Seagrave and has proven so good that it is recognized today as the best method.

Seagrave *the Greatest Name in Fire Apparatus*



THE SEAGRAVE CORPORATION
Columbus, Ohio
Bickle-Seagrave, Ltd. Woodstock, Ont.

YOUR ASSURANCE OF *FIRST-TIME* AND *EVERY-TIME* DEPENDABILITY FOR FLAMMABLE LIQUID FIRES

JUST OUT—"Foam Fire Protection," illustrated booklet on what Foam is, what it does, how it works. Yours free.

EVERY BATCH of AER-O-FOAM is tested on actual petroleum or polar-solvents fires before it is offered to you. Each phase of the performance is checked—such as extinguishment time, foam volume and sealability.

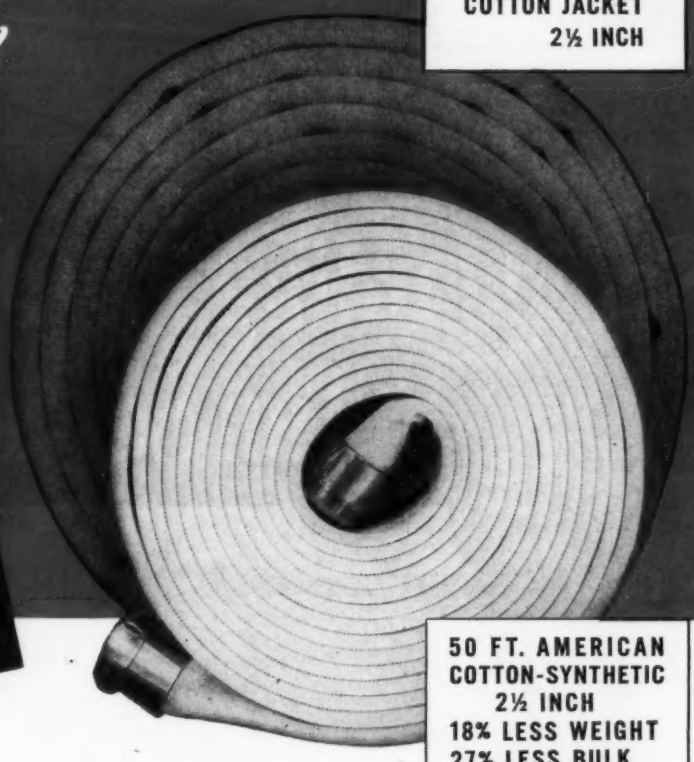
AER-O-FOAM's tough blanket of tiny air-filled bubbles smothers and cools fire at the same time. What's more, it can be used to insulate surrounding property and equipment against fire damage. Write for data on AER-O-FOAM (for petroleum fires) and AER-O-FOAM "99" (for polar-solvent or petroleum fires). When you need foam fire protection, you need *fire-tested* AER-O-FOAM protection.

NATIONAL
FOAM SYSTEM INCORPORATED
Headquarters for Foam Fire Protection — WEST CHESTER, PA.

Now a great new hose proved by two years of field testing

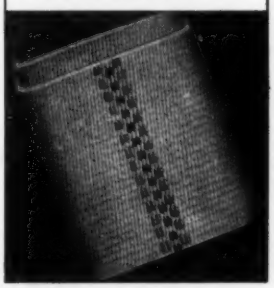
THE *American*
COTTON-SYNTHETIC JACKET *Hose*

400 AND 600 LB. TEST



50 FT. ORDINARY COTTON JACKET 2½ INCH

50 FT. AMERICAN COTTON-SYNTHETIC 2½ INCH
18% LESS WEIGHT
27% LESS BULK
50% STRONGER



Try this great new hose. See for yourself how its long-lived cotton-synthetic jacket and laminated natural rubber lining make for easy handling, while saving space and weight. Here's the story —

EASIER TO HANDLE—50′ of this AMERICAN Cotton-Synthetic Hose weighs 18% less than 50′ of average cotton jacket hose . . . enables firemen to move more hose faster. Also lies flatter, coils better, stays flexible wet or dry.

SAVES SPACE—AMERICAN Cotton-Synthetic enables you to carry at least 25% more hose.

STRONGER—High strength-to-weight ratio remains same wet or dry . . . tests prove it 50% stronger than regular hose.

Why lug heavy, bulky, hard-to-handle hose?
Order AMERICAN Cotton-Synthetic Jacket Hose—available in 400 and 600-lb. test—from your dealer NOW. . . or write us for details.

THE *American* RUBBER MANUFACTURING CO.

AR-26

MAKE SURE; Look for Identifying Stripe and Test Report

AMERICAN Cotton-Synthetic Jacket Hose has red, white, and blue identifying stripe. Each 50′ length is factory proof tested with couplings on, for strength, stretch, and twist. Test report accompanies hose.

Factory & General Offices: • 1145 Park Avenue • Oakland 8, California • Phone OLympic 2-0800

Here's a familiar sight to swimmers and boaters at beautiful Mission Bay Aquatic Park, San Diego. The park's modern, efficient Life Guard Service patrols the waters in special boats powered by 25 hp Johnson Sea-Horse outboard motors.

Safeguarding 15,000 Fun Seekers

JOHNSON SEA-HORSE 25

25 hp. Speeds over 30 mph. With Mile-Master Fuel System, Gear Shift, Twist-Grip Speed Control.

No ordinary boats for the Life Guard Service of San Diego, Calif. They build their own—to rigid specifications! These craft have to be rugged, yet fast; roomy, yet maneuverable; portable, yet seaworthy.

But special boat design means little without the power to match it. That's provided here by the sensational 25 hp Johnson Sea-Horse. This great motor has the speed, endurance, maneuverability, portability, and DEPENDability that bring out the best in these fine boats. And it is economical—to buy, maintain and service.

Here's how Don B. Vynne, Director of Aquatics of the City of San Diego, puts it: "We can state without reservation that the Johnson '25' is a real serviceable motor, economical in operation and maintenance."

Take stock of *your* marine power needs. See your Johnson Dealer. Look for his name under "Outboard Motors" in your classified phone book.

FREE! Send for big new catalog which describes the 1954 Sea-Horses in detail. Complete specifications. It's yours for the asking. Send a post card to . . .

JOHNSON MOTORS, 7000 Pershing Road, Waukegan, Ill.

In Canada: Manufactured by Johnson Motors, Peterborough

5 GREAT SEA-HORSES FOR 1954

ELECTRIC STARTING SEA-HORSE 25—25 hp. Push-button starting. Deluxe features throughout. **$498.00***

SEA-HORSE 25—25 hp. Ready-Pull starting **$410.00***

SEA-HORSE 10—10 hp. Brilliant acceleration. New. Improved. Outboard motoring's great buy. **$297.50***

SEA-HORSE 5½—5½ hp. New "Suspension Drive" sensation. It's *quiet!* **$210.00***

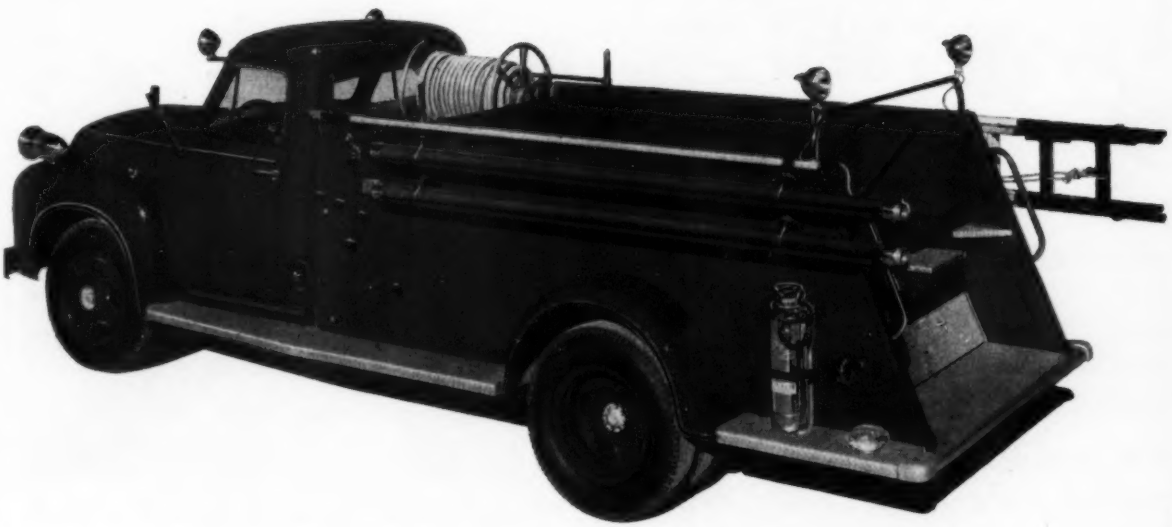
SEA-HORSE 3—3 hp. A 32-lb. *twin!* With amazing Angle-matic Drive. Only **$145.00**

SHIP-MASTER REMOTE CONTROL—Fits Sea-Horse 5½, 10, and both 25's. Instant hook-up. From **$29.50**

OBC certified brake hp at 4000 rpm. Prices f. o. b. factory, subject to change.
**Includes Mile-Master Fuel System.*

Johnson
SEA-HORSE
OUTBOARD MOTORS

WITH BOARDMAN-BUILT TANKERS YOU'RE *Ready*



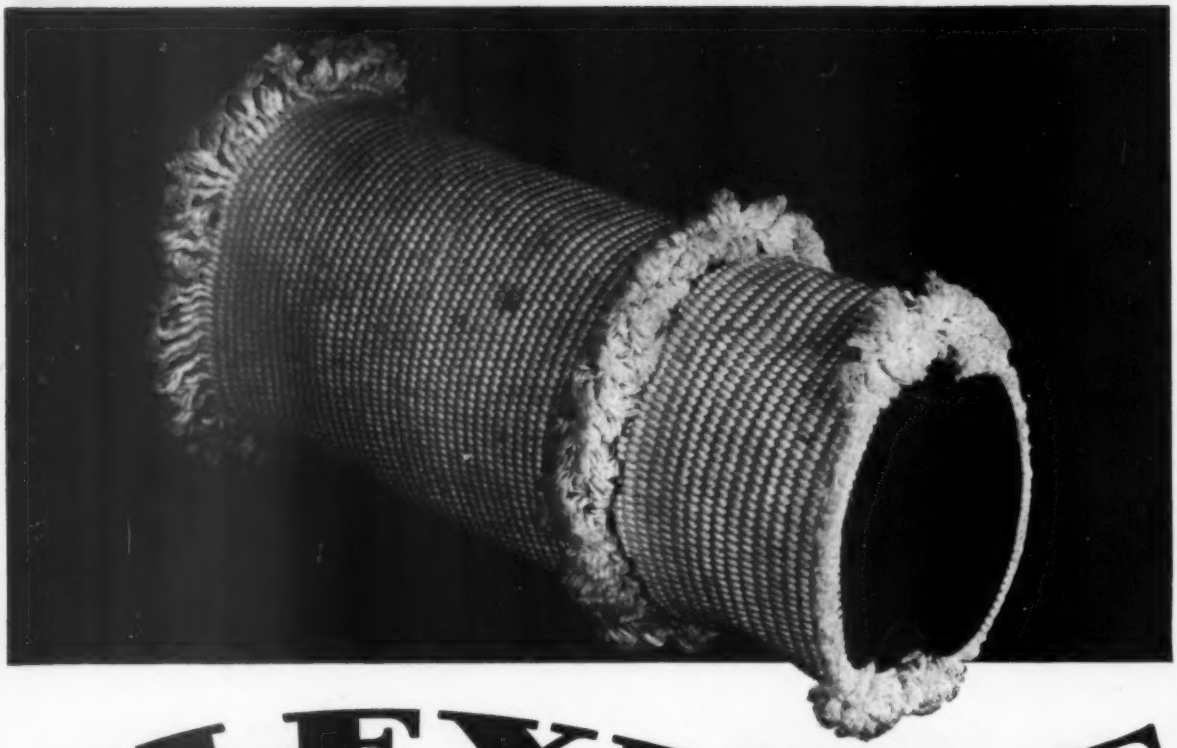
Yes . . . BOARDMAN-Built fire fighters are engineered and constructed for complete and long-lasting dependability, even in the toughest emergencies. There's a model for your department, whether urban or rural. The mobile rural tanker above fights running grass fires with the truck in motion, in addition to routine blazes. The famous Waterous pump amidship delivers 200 GPM at 150 lbs. pressure from draft. Like the rugged BOARDMAN-Built pumpers, it is available on any commercial chassis for maximum economy.

★ MODEL 200-TD
BOARDMAN TANKER

Write TODAY for details and specifications on BOARDMAN-Built fire fighters to meet your needs.

Dealer territories available in some states—write for information.

THE BOARDMAN CO.
1409 S.W. 11th St. • OKLAHOMA CITY, OKLAHOMA



FLEXIBLE

HEWITT-ROBINS

Bi-Roll Municipal Fire Hose

Here's the hose that gives you the flexibility and safety you need for fighting fires . . . Hewitt-Robins Bi-Roll municipal fire hose.

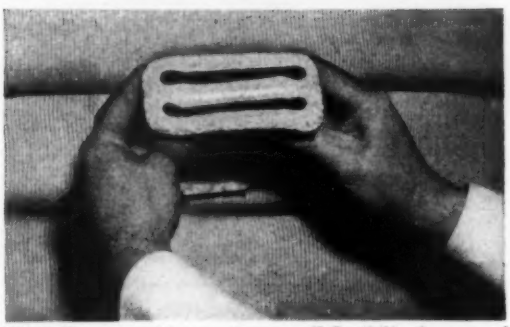
Bi-Roll's greater flexibility means that 30% to 40% more hose footage can be stored or dispensed in a shorter time with greater handling ease and safety.

For complete information about Hewitt-Robins Municipal Hoses . . . Bi-Roll—Chemical Booster—Fog—Suction—Street and Sewer Flushing, contact Municipal Fire Hose Division, P.O. Box 974, Buffalo 5, N.Y.

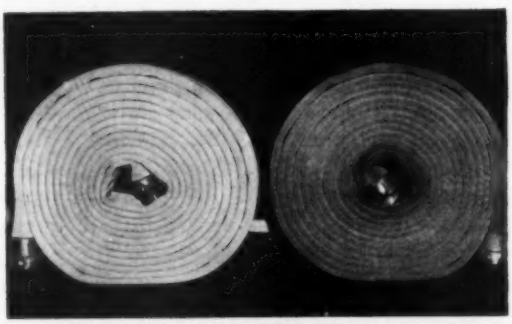
HEWITT (HR) ROBINS

Executive Offices, Stamford, Connecticut

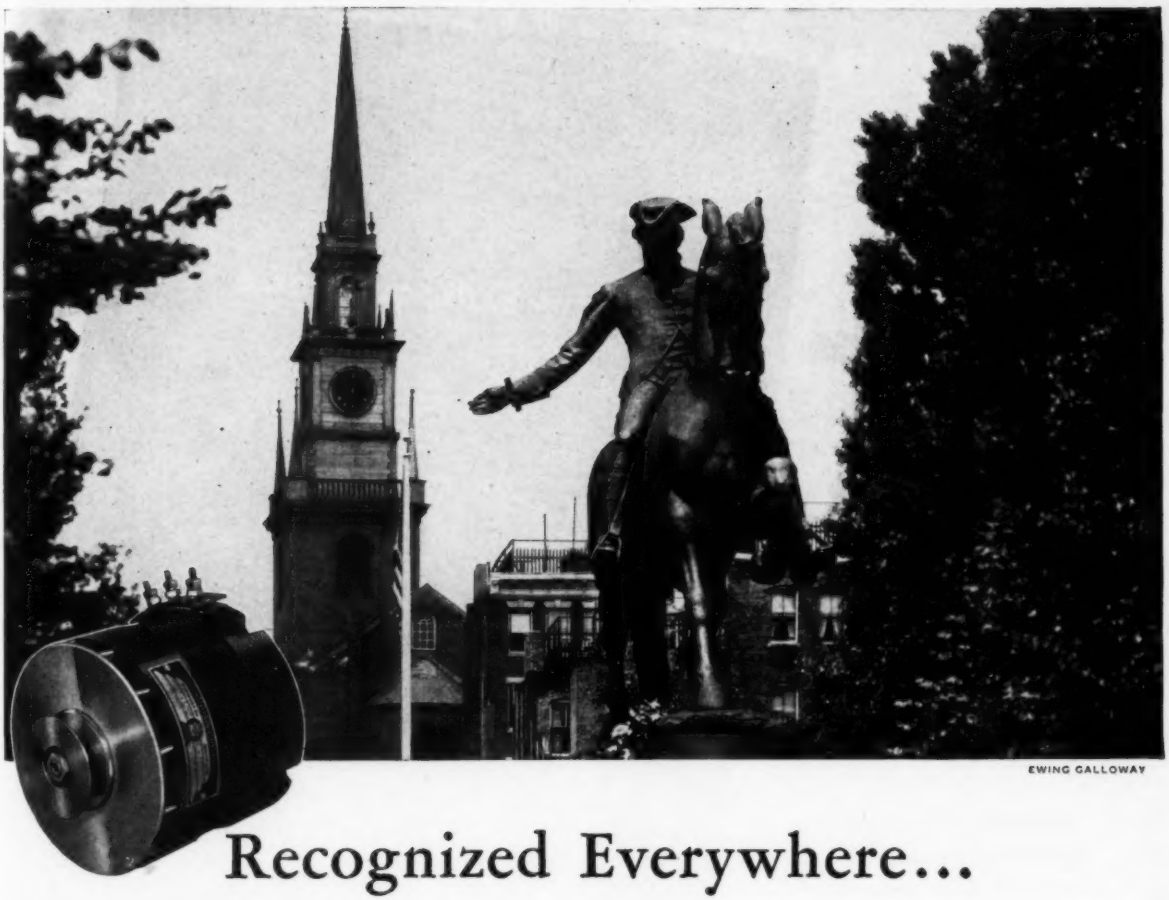
DOMESTIC DIVISIONS: Hewitt Rubber • Robins Conveyors • Robins Engineers Restfoam • FOREIGN SUBSIDIARIES: Hewitt-Robins (Canada) Ltd., Montreal Hewitt-Robins Internationale, Paris, France • Robins Conveyors (S. A.) Ltd., Johannesburg
EXPORT DEPARTMENT: New York City



Bi-Roll . . . provides greater over-all flexibility because of its non-vulcanized point-of-fold construction . . . permits a flatter fold under light pressure . . .



Bi-Roll is available either with or without wax and gum treatment. Treated Bi-Roll provides 100% proof against mildew and rot . . . is equally pliable in hot or cold weather.



EWING GALLOWAY

Recognized Everywhere...

WHEREVER YOU LIVE, you recognize this view of Paul Revere's statue and the Old North Church in Boston. And Boston recognizes the Leece-Neville Alternator ... it is doing a great job every day on that city's fire equipment.

This is just one of the many cities where Leece-Neville Alternators are helping fight fires and save lives. You'll find them in New York, Cleveland, Denver, Dallas, Montreal, Quebec and hundreds of other cities, large and small, here and abroad.

It's easy to find the reason for this wide acceptance of the L-N Alternator. More than eight years of performance on many thousands of vehicles has proven the advantages of the Leece-Neville Alternator System in place of the conventional d.c. generator.

Two-way radio operation is surer and clearer ... when seconds count, that's vital! With 25 to 40 amperes idling and full current output from 18 m.p.h., siren, lights, radio and other accessories are carried by the Alternator, saving the battery for starting only.

Installation of a Leece-Neville Transformer with the Alternator gives your equipment a source of 110 volt power. You can plug in standard flood lights, searchlights, portable saws, drills and other hand tools. Send for special Transformer folder.

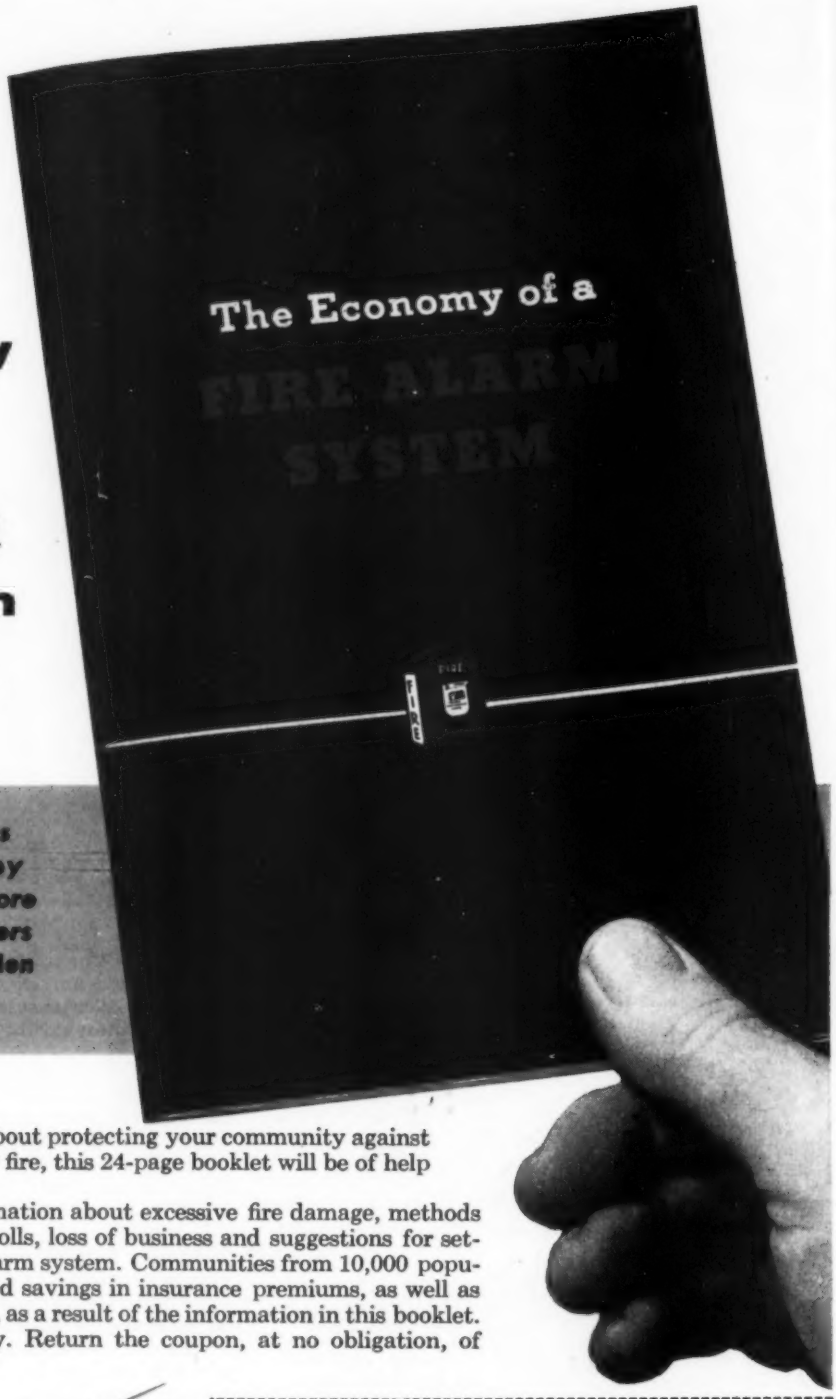
There are L-N Alternators for 6 volt systems with capacities to 95 amperes; for 12 volt, up to 180 amperes; and for 24 volt, to 80 amperes. Be sure to specify Leece-Neville Alternators on your new equipment. Write The Leece-Neville Company, Cleveland 14, Ohio.

Custom-Engineered Electric Equipment Since 1909

you can rely on **Leece-Neville** Alternators

proved by performance for over 8 years

How necessary is an adequate Fire Alarm System?



Answers · Questions that may be asked by Average Citizens · Store Owners · Manufacturers Bankers · Insurance Men City Officials

Whatever your thoughts about protecting your community against loss of life and property by fire, this 24-page booklet will be of help to you.

In it you will find information about excessive fire damage, methods for preventing loss of payrolls, loss of business and suggestions for setting up an adequate fire alarm system. Communities from 10,000 population and up have received savings in insurance premiums, as well as reductions in property loss, as a result of the information in this booklet. Send for your copy today. Return the coupon, at no obligation, of course.

GAMEWELL®

THE BOX IS POSITIVE

Reduces Human Error

There is no substitute for the Municipal Fire Alarm System

THE GAMEWELL COMPANY, DEPT. FE
NEWTON UPPER FALLS 64, MASS.

Please send my copy of "The Economy of a Fire Alarm System", at no obligation.

Name.....*Title*.....

Address.....

.....

City.....*Zone*....*State*.....

MAY, 1954

FIRE ENGINEERING

VOL. 107, NO. 5

With the Editor

Fire-Police Separation Apropos the agitation over the merging of fire and police departments into a single homogeneous unit to both fight fire and handle all police work, and the emphasis placed on certain California communities that have adopted the much discussed, and cussed, recommendation of the Public Administration Association, the following message, taken verbatim from the "Trojan in Government," publication of the School of Public Administration of the University of Southern California, will be of interest:

"First participant in the U.S.C. Fire Administration program to be made a Fire Chief is Joy M. West, formerly of the Santa Ana department and now head man in the City of Hawthorne. West will receive his bachelor's degree from the School of Public Administration in June.

"Chief West, who received his post last June, assumed leadership in a city whose experiences in the fire fighting field are of considerable national interest.

"Hawthorne was one of the first cities to integrate its fire and police departments in 1943. After eight years' experience with this type of organization, it was decided in 1951 to separate the two functions. Not until 1953, however, was a permanent chief appointed to take over the fire department.

"West, who placed first on competitive examinations, was chosen from a host of candidates by City Manager Meno L. Wilhelms. His professional experience and training were attributes that the City was particularly seeking to revitalize a fire department that had long been in a subordinate position to the policing activity.

"The changes that have occurred in the past ten months under West's professional leadership are almost too numerous to mention. They include:

"(1) Development of a long range plan for the improvement of the Fire Department.

"(2) A new training program was begun, consuming 1095 hours each year.

"(3) Creation of a full-time Fire Prevention Bureau.

"(4) Adoption by the City Council of the 1953 edition of the Fire Prevention Ordinance established by the National Board of Fire Underwriters.

"(5) Complete fire inspection of all commercial and industrial properties, this to be done on a semi-annual basis.

"With the arrival of new equipment now on order, West will have whipped his department into such shape that within a year a substantial decrease in insurance rates is expected. Savings to residents of Hawthorne may run as much as 50 per cent.

" 'We are now convinced,' reports City Manager Meno Wilhelms, 'that an effective fire program needs trained professional leadership. In the past year we have had that kind of leadership in Hawthorne and the results speak for themselves'."

There you have it. Incidentally, we might say, the results speak well for Chief West, for Hawthorne, and for the policies of firemanship training and administration prevailing on the West Coast. West joined the Santa Ana Fire Department in 1941, was named captain in 1946 and battalion chief in 1952.

The experience of Hawthorne is significant. After trying out combined police and fire services for eight years, the city administration decided to separate the two public safety units, and place the fire department under an alert, fully qualified Fire Chief. The results of this move will prove highly beneficial to the City. A halving of insurance rates is indicated. Better fire protection for the citizens of the community is assured.

Those cities which are being urged to consolidate fire and police departments might profitably study the experience of Hawthorne before taking the step.

Fred Shemwell

How Detroit Uses F. D. Radio

By PAXTON MENDELSSOHN
Pres., Board of Fire Comrs., Detroit, Mich.

DETROIT is a city of 139 square miles, with all the normal hazards plus tremendous factories housing thousands of workers. We have an 18 mile waterfront. For protection we operate 51 Land Companies; 30 Ladder Companies; 7 Squads; 1 Fire Boat; with all the other apparatus and equipment used in modern fire fighting, divided into 12 Battalions. Our dispatching is done from one central office and, although we have 3 transmitters, all operate on the same wave length, 2 always being in reserve. That briefly is our set-up.

Our Department responds to about 19,000 alarms a year; there are roughly 60,000 fire equipment starts, totalling over 161,000 vehicle miles, not including the movements of Chiefs on Battalion inspections, Commissioners, Division Heads and their Assistants, Doctors, Emergency Repair Cars, as well as Fire Inspection Cars, and Arson Squad Patrol Cars. Our records indicate that roughly all of this requires about 100,000 out-going transmissions and the required responses. All of this has been mentioned to give a picture of what the radio system and procedure in use must serve.

In the operation of an emergency organization, such as a Fire Department, nothing is trivial; the smallest detail is important.

Assuming our regular maintenance crew keeps our transmitters, console and receivers in good condition to complete the perfect operation, we must also be sure the remote receivers and mobile transmitters on our apparatus also function properly. Therefore, we must at all time have a well charged battery on the apparatus. We hold the Commanding Officer responsible, who in turn sees that the pumper engineer and/or apparatus driver takes daily battery readings, records same on the maintenance sheet, and charges the battery as often as necessary. Of course, it is assumed that every fire station is provided with a battery charger. There is no excuse for a "low battery." If anything goes wrong with the battery, other than the requirement of being charged, a replacement is made immediately from an ample stock of fully charged batteries at our shops. These are delivered to the fire station by one of our two apparatus emergency cars which are on duty around the clock.

While our Fire Department operates its radio equipment on a special wave length of its own, our installations, maintenance, and repairs are handled by a radio division of the Police Department which, aside from our work, services all city departments using radio systems. The Police Department also operates emergency cars and carries spare sets so any mechanical failure of an instrument is also taken care of without unnecessary delay. Our maintenance service does not attempt any work on sets while on the apparatus, other than minor adjustments. The instrument giving trouble is replaced and all repair work is accomplished at the radio service workshop. To do this, we have extra sets of each model.

And, lastly, claiming to be a completely radio equipped department, just recently we can also boast extra pumpers, ladder trucks, chiefs and squad cars, with radio sets installed so that if any piece of first line fire fighting apparatus comes into our shop for repairs, the replacement is also radio equipped, eliminating the necessity of a fire company responding without radio.

Radio dispatcher's desk at Detroit Fire Alarm Headquarters.

Code Numbers for Auxiliary Units

The fire service refers to Fire Companies and Battalion Chiefs by number such as "Engine 52"; "Ladder 25"; "Squad 7"; "Batt. Chief 10," etc.; however, there are in every Department many radio equipped vehicles that cannot be so designated, such as Executive Chiefs, Commissioners, Division Chiefs, Doctors, Emergency Repair Cars, Arson Squad Patrol Cars, etc., and for this type of vehicle we have set up group code numbers, as shown on the card reproduced herewith.

It will be noted that we start with 100's for Commissioners; 200's for Executive Chiefs; 300's for Medical Division; 400's for Communications Division; 500's for Apparatus Division; 600's for Fire Prevention Division; 700's for Water Division; and 800's for Arson Investigation Division. These cards are distributed to all Fire Stations and are carried on all apparatus, chiefs' cars, and other radio equipped vehicles of the Department. A quick reference to this card will indicate that the group numbers are arranged so that they can be easily memorized. With the exception of Commissioners and Doctors, whose numbers refer to the individual person, all designations apply to the rank of office, not to the individual person. Thus "200" means "Chief of Department" regardless whether that person is on duty or some other Officer is acting in his behalf. This practice applies to all such designations; it's the rank and not the individual. Our Dispatchers are informed daily what Chiefs are on duty in each rank and, therefore, know with whom they are communicating. Except under unusual circumstances, we do not use individual names over the air, therefore, regardless of what Chief is on duty any day, he is known by the Battalion or code number. Commanding officers of fire companies, when communicating from a mobile unit to a Dispatcher, must state their rank as well, such as, "The Captain of Engine 23"; "Lt. of Ladder 14," etc.

We follow the same practice when answering on the Department telephone, i.e., "Chief of 11th Battalion"; "Engine 46, the Captain," etc. In other words, the communicating procedure, whether over the radio or by telephone, follows

a basic pattern. To complete this theme, a fireman below the rank of an officer when answering the telephone while on the watch desk will answer, "Ladder 31 —Jones speaking." Our telephone conversations likewise being recorded, all persons at all times are identified either by rank or name.

We have very few set phrases, or prescribed sentences, or use of words, and no code numbers for a sentence, order or action. We operate on the principle that a message or order given in good English, properly pronounced, in a moderate tone and speed, is clearer and better understood and offers less chance of misunderstanding and error than highly specified phrases or codes. Our communications by radio are "conversational," permitting the use of local colloquial expressions, which I believe exist in some form or other in every Fire Department. Of course, it is assumed that such permitted expressions are in common use in the Department and fully understood by everyone. Our use of radio being "conversational," you seldom hear the tenseness or voice tremor so often heard on the stage and in television in an over-exaggerated manner, such as, "calling all cars." Our most tense expression might be, "All cars stand by—I will call you."

After all this I must renege in one instance on the use of the word "emergency." It is only used when circumstances are just that, and when used by a properly identified Chief, Commanding Officer, or Official, it demands and gets complete priority. For instance, upon an order such as "Chief of 7th Battalion—emergency to KQA-205," the Dispatcher immediately orders all cars to "stand by" and answers, "Come in Chief 7." Usually such a message pertains to an extra alarm, a special call for extra apparatus, or messages or orders to be given to the Police Department or a Public Utility. Likewise a Company Commanding Officer may use "Emergency" in such a case as an accident while responding to a fire. Further, anyone properly identified may use the "emergency" for any emergency situation.

Procedure in Processing Alarms

Let's start with an original broadcast of an alarm of fire. Our assigned call letters are "KQA-205." Our Dispatchers have received an alarm direct from a box (no phone calls), and allowing sufficient time after transmission over the telegraph system for all Companies responding to get rolling, the Dispatcher confirms the alarm by radio to the Companies responding as follows: "KQA-205 a box alarm of fire, box 663, Second and Peterboro, *the box was pulled.*" The latter phrase indicates that there is no known address—the Companies must respond to the box. He then calls the first due Company to acknowledge this information, a practice we adhere to religiously. If the alarm originated from a telephone call, and the facts warrant originating a box, the same procedure is followed except there is no mention of the box being pulled but the exact known address of the fire is broadcast, and of course, all Companies responding get the complete information.

In the case of still alarms of special calls, the information having been given to each Company direct at the Fire Station by phone, vocal alarm, or some such form of communication, the confirming broadcast is more of an informative message for any cars on the air and states, for example: "Still alarm, Engine 26, Ladder 14, Chief 6, to Jefferson & Cadillac," which is the nearest intersection to the address. No acknowledgment is required by the Companies responding.

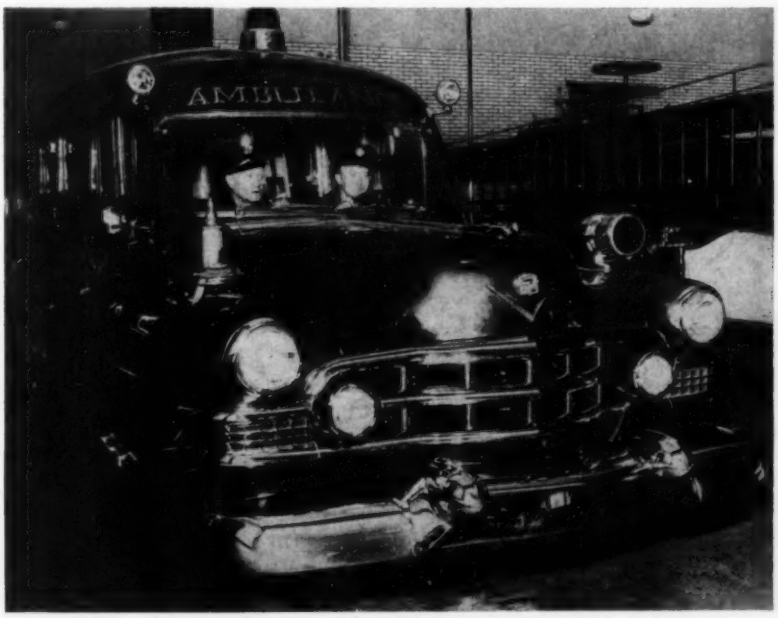
Just one more situation: When an alarm has been received by telegraph, including "the box was pulled," and should a telephone message be received giving the exact address in time so that the responding Companies could not have reached their destination, this added information is quickly transmitted to all Companies responding and the usual acknowledgment is required by the first due company. Of course, if operations should get very busy, Dispatchers have at all times the privilege of modifying the procedure to fit the situation. However, except for rare occasions this has not been necessary.

One stormy night about a year ago we had 75 alarms in a short period of time, including a second and a fifth alarm overlapping, and 5 other "all hands" first alarm fires going on at the same time. The whole operation worked out smoothly and efficiently at our Dispatching Office.

So far I have dealt with the procedure of fire dispatching by air originating with Companies in quarters. Let us now transfer our attention to dispatching and contacting companies and personnel when out of quarters, either working at or returning from a run, as well as contacting Chiefs and other vehicles while "on the air" on Department business. First of all, except for Chiefs and Fire Companies responding to fire or special calls, every radio equipped vehicle while on the road is required *to put itself "on the air,"* which goes for Commissioners (if they wish to be contacted), Chiefs making the rounds of their Battalions, Doctors, Division Heads, Emergency Repair Cars, Arson Squad Cars, etc. However, if a telephone is available, which is generally the case, such persons are required to put themselves "on the air" and "off the air" by phone before leaving quarters and/or finishing their business and returned to quarters. However, Battalion Chiefs making the rounds of their Battalions do not go "off the air" at arrival of each Fire Station visited. The Chief's aide can remain in the car while the Chief goes into quarters, and besides we have a regulation that when a Chief of any rank visits a Fire Station for any purpose, the man on the desk watch duty must immediately notify the Ditspatcher by phone, reporting the visitor. This also applies to visits by Commissioners, Division Heads, and other Officials of the Department. This procedure greatly reduces unnecesary radio communication and keeps the air waves less occupied and free for fire emergency dispatching.

"ON THE AIR." We use this phrase for any Officer, Company, or other radio equipped vehicle with the set turned on. Commanding Officers are held personally responsible for turning on the set whenever the Company leaves quarters for any purpose, response to fires or otherwise. He must turn it on at once before crossing the sill if possible. This is the Commanding Officer's duty, not the Engineer or Driver.

Ladder companies, squad cars, and Battalion Chiefs may turn off their sets while working at a fire unless they have been especially ordered to keep their sets on, and a man is left behind to listen in. Pumper companies leave their sets on while at fires. The motor is kept running, which keeps the battery charged. As the engine operator stays with his apparatus, he listens in should the Dispatcher want to contact a Chief or his aide. The above applies to any *ordinary first alarm.* In the case of a multiple alarm, our Department ambulance, which responds automatically on all second or greater alarms, becomes the radio field contact at the fire, unless for some reason it has not responded, in which case one of the Chief's cars becomes the established contact, and the



Fire department ambulance, which responds automatically on all second or greater alarms, becomes the radio field contact at the fire.

Dispatcher is so advised.

When Companies start back from a response, Chiefs, ladder companies, and squads immediately put themselves "in service." We also permit engine companies to do likewise, if they have used not more than 300 feet of their hose; otherwise they return to quarters "out of service" and report "in service" when ready for another run. Companies that have put themselves "on the air" while returning from a fire, notify the Dispatcher "in quarters and off the air" by telephone or whatever system is used upon reaching quarters. Companies and Battalion Chiefs while returning from a run, even if in service "on the air," do not respond to another call without direct orders of the Dispatcher. Consequently, in our use of radio the Dispatcher must keep two logs, one "Companies in and out of service from quarters" and one "Companies in service on and off the air." In our cases, all Companies which have responded to a second or greater alarm, when returning to quarters and if in condition to accept another run while returning, report by radio "returning to quarters—in service." Thus the Dispatcher can use them for another fire at any time while returning, but they must also advise the Dispatcher by radio when they reach their own first alarm district. We have found this double reporting of great value to the Dispatchers.

Upon arriving at a first alarm which appears to be false, or which is of minor importance, such as a rubbish fire outside a building, an awning, an automobile on the street, etc., we require the first arriving company to immediately report the circumstances to the Dispatcher. Of course, if it is a working fire, the Battalion Chief, through his aide, makes his regular report.

When a first alarm company makes a report as above mentioned, the message is identified by the rank of the Officer and the Company designated, namely, "The Captain of Engine 46. We have a tar kettle, we can handle it alone"—or—"The Ladder Company can take care of it." Now, why the rank "Captain of —"; "Lt. of —"; "Acting Lt. of —"; and etc. Well, this is going to start an argument, but we have used the following procedure for the past five years and it works—we like it.

Upon receipt of such a radio report, the Dispatcher immediately relays the information to the Battalion Chief (as incoming and outgoing messages are on different wave lengths) stating, "Captain of Engine 46 reports—." It is then the responsibility of the Battalion Chief to decide whether to stop the other Companies and return them to quarters or let them complete the run. We do not permit the Dispatcher to stop Companies except on the order from the Battalion Chief responding.

The question has been asked: "How can a Battalion Chief who has not yet arrived on the scene make such a decision?" That's where the rank comes in. The higher the rank, the more experience and more reliable the evaluation. Besides, each Battalion Chief should know who his officers are on duty with him, and their capabilities. If the Chief has any doubt, he will let them all roll, but in most instances, whether he orders some of the Companies returned or not, he himself continues on.

Incidently, stopping and turning back fire companies before completing a run when not required, if judiciously handled, becomes a matter of considerable saving in dollars. The exact amount saved annually is difficult to compute as it is hard to get a reliable operating cost per mile on the various types and sizes of apparatus and vehicles, However, for a six month period we tried an experiment. During this time we had each Commanding Officer report the street intersection nearest to where his Company was stopped and ordered to return to quarters. By measuring the distance from that point to the intended destination on a large scale map, and doubling it, of course, we discovered that on an annual basis we were conservatively eliminating not less than 10,000 miles of apparatus travel. By making these Companies immediately available for other assignments, and thereby making it unnecessary in many cases to cover in by other Companies at long distances. There is a big saving in tires, gasoline, and the general wear and tear of the apparatus.

Now assuming that the incident above described is a box with an assignment of 3 Pumpers, 2 Ladders, 2 Squads, a Chief (we assign at least 1 of our 7 Squad Companies on each box alarm, many cities call them Rescue Companies). If the first due Engine or Ladder report, "We can handle it," it leaves 6 vehicles to be stopped, turned around and "put in service on the air."

When we first used our radio system, upon hearing the Dispatcher repeat the acknowledgment of the Chief's orders, all the other vehicles started putting themselves in service at will, causing confusion. Under our present procedure, the Commanding Officers must keep quiet until the Dispatcher calls them, which he does immediately in reverse order of distance. In other words, he calls the last due company first, etc. To repeat, it works smoothly and fast. Of course, every order and response must be repeated back and acknowledged.

The uses of radio in Fire Department operations are endless, i.e., stopping enroute, ordering from one fire to another, picking up companies while enroute back to quarters, and sending them to some other incident, etc.

How did we ever get along without radio? Well, I'll tell you—slower and less efficient. Yes, I said less efficient than we are now. Maybe from all of this some city fathers will get the idea that we can do with less fire companies. I disagree. The use of radio does not reduce distances between fire stations, or lessen existing fire hazards. It does not make people less careless, nor does it reduce the number of alarms, but its existence and use by fire departments makes these departments more efficient and more flexible, is bound to reduce loss of property and life, and gives the taxpayers and citizens a better deal for their families and possessions.

All of the procedure I have attempted to describe may sound complicated and lengthy. However, I assure you it takes much longer to describe in words than the doing itself. We actually have condensed our procedure to a minimum of required words with a basic formula of conversation and a systematic routine of operation. It's the result of six years of experience—not perfect yet—but it seems to fit our Department at present, and after all that's what each fire department is seeking.

AUXILIARY CAR RADIO CODE NUMBERS
as Revised October 15, 1953

COMMISSIONERS	
100	
100	COMM. MAHON
101	COMM. POLLACK
102	COMM. CREEDON
103	COMM. MENDELSSOHN

EXECUTIVE CHIEFS	
200	
300	CHIEF OF DEPT.
301	DEPUTY CHIEF
302	ASSISTANT CHIEF

MEDICAL DIV.	
300	
300	AMBULANCE
301	DR. SCHULTE
302	DR. McALONAN
303	DR. CETNAR

COMMUNICATIONS DIV.	
400	
400	CHIEF OF COMM.
401	ASSISTANT SUP'T
402	ASST. GEN'L LINE FOREMAN
403	NO. 1 EMER. CAR
404	NO. 2 EMER. CAR

APPARATUS DIV.	
500	
500	CHIEF OF APPARATUS
501	ASSISTANT CHIEF
502	NO. 1 EMERGENCY
503	NO. 2 EMERGENCY

FIRE PREVENTION DIV.	
600	
600	FIRE MARSHAL
601	ASST. FIRE MARSHAL
602	F. P. EMERGENCY

WATER DIVISION	
700	
700	CHIEF OF WATER
701	ASSISTANT CHIEF OF WATER

ARSON SQUAD	
800	
800	INSP.—ARSON SQUAD
801	LT.—ARSON SQUAD
802	WEST SIDE—DAY
803	EAST SIDE—DAY
804	4 P.M.-12 MID.
805	MIDNIGHT

Contributions to Fire Departments Are Deductible

The question is frequently asked, are contributions made to volunteer fire departments by individuals deductible on personal income tax returns?

In order to secure the latest ruling on this subject, *Fire Engineering*, addressed an inquiry to the U. S. Treasury Department, Tax Ruling Division, asking about rulings on the deductibility of contributions made for the maintenance of volunteer fire departments.

The following quotation from a letter from H. L. Swartz, Director, Tax Ruling Division, received April 7th, last, covers the points in question:

To the Editor:

This is in response to your letter in which you request to be advised whether any ruling has been made relative to the deductibility of contributions made for the maintenance of volunteer fire departments.

Section 23(o)(1) of the Internal Revenue Code provides that there shall be allowed as a deduction in computing the taxable net income of an individual, contributions or gifts made within the taxable year to the United States, any State,

(*Continued on page* 435)

Are We Sitting Ducks For The Integrationists?

Best Defense Against Pressure for Combining Fire and Police Forces is a Fire Protection Job Well Done

By ROD A. PORTER
Fire Marshal, Winnetka, Ill.

"INTEGRATE," defined by Webster, is "to form in the whole; to unite or become united so as to form a complete or perfect whole; unify; . . ."

There's an idea blooming in the minds of many municipal administrators and others participating in or concerned with problems of municipal government which advocates, in greater or lesser degree, a union of fire and police services with personnel designated as "fire-police" or "public safety officers." This arrangement is commonly identified as "integrated public safety services" and requires the training of firemen in police work and police personnel in fire service activities.

As in most instances of plans and proposals involving revolutionary departure from traditional organization and policy, integration of fire and police departments (the combining of the duties of firemen and policemen) has created a hullabaloo in many quarters, probably more in the case of fire department personnel than in the case of police, though this is just a guess.

To state that there is vehement disagreement between proponents and critics of integration is an understatement. Unlike many hotly contested issues, there appears to be no middle ground of possible agreement, at least presently. You're either for integration or you're "agin" it.

Let's look at the pro and con of it while trying as best we can to remain objective:

The principal reason for the combining or integration of fire and police services is economy, closely followed by that of obtaining maximum utilization of the manpower of both departments. If one believes the rumors, some public employes in the safety services are "putting in" rather than utilizing their time on the job. At least that's what integration advocates insist and they seem to feel that the prime offenders are fireman. By assigning police work as well as fire department responsibilities, along with dual training, the combination men are said to be an improved product. This is not without advantage to personnel in some instances, where salary rates have made the combination job more attractive. This is another point of the "pros" who contend that a better type employe is obtainable where the salary inducement goes along with the increased job activity and training.

The fire control problem is considered in this camp to be quite capable of solution, inasmuch as most communities now supporting integrated services are relatively small, and a good percentage

Chief Rod A. Porter

appear to be so located that full advantage may be taken of mutual aid arrangements. Furthermore, all personnel are for the most part full time paid employes who can be properly trained, and off-shift personnel can be summoned to supplement on-duty forces when the occasion demands. Such occasions, at least percentagewise, are considered rare.

Volunteers, or call men, can also be used to bolster the paid force in coping with fires which require added manpower, and at least a portion of these men can be employed as "sleepers" to increase night fire department strength. All this amounts to definite savings to taxpayers who are spared the additional cost of maintaining completely separate paid public safety services.

It is also argued, with some merit, perhaps, that firemen working as policemen become better acquainted with their communities while on patrol duty, better prepared to utilize hydrants and features of terrain and structures learned outside the fire house, which might benefit the fire fighting effort.

The organization of small city fire and police services as a combined unit can effect improved performance by providing a closely knit, well trained group which is believed superior to certain types of "Volunteer" organizations, which may possess "numbers" but lack the professional knowledge and ability of fewer personnel whose life work is public safety service. This is another argument in favor, especially, it is stated, where a town reaches that point where it must expand its fire and police services as the result of population increase and a building boom, annexation of fringe areas or an influx of industry on a moderate scale.

Facing such situations, the municipal administrator or governing body may decide that the establishment of a paid, separate fire department is too big a jump, but that some increase in paid personnel, plus integration, can be provided without requiring an "unreasonable" increase in budgetary requirements. The viewpoint of a councilman, mayor or city manager fovoring such a plan is not difficult to understand in the light of such argument, particularly so as these officials have a direct hand in obtaining and administering the funds required for the support of fire and police services.

Another feature of the combination department which is appealing is the freedom from stereotyped organization. Integration can be applied in almost any degree, from a very "mild" type instituted in Glencoe, Ill. (pop. 7000) this year to the completely integrated groups found in several Detroit suburbs and in the Province of Quebec, Canada, where the combination public safety department appears to have been a widely adopted system, especially in smaller cities. The claim is also made that integration is practical because it can provide adequate training for the rank and file personnel to perform assigned tasks for either service "giving citizens balanced public safety services with limited number of men who are individually and collectively more valuable to the community than if they were specialized to a higher degree."*

Jack of All Trades?

In rebuttal, the "cons" are saying "Jack of all trades and master of none" for one argument. Many fireman are bitter about the accusation made in some quarters that they are not as active as they should be, and cite 24-hour and like periods of duty as a working condition quite unlike that of most policemen. Some feel that the fire service (in many smaller cities at least) is becoming a goat for certain "police-minded" officials who can only hope to produce a glorified police set-up to the detriment of the fire service. Some police appear skeptical, for many police departments are already taxed beyond the limit of their manpower, the same as fire departments, and prefer new police recruits

*Charles S. James, staff member, Public Administration Service, 1313 E. 60th St., Chicago, "Public Management," Feb., 1954, "Integration of Fire & Police Services."

to men doubling in brass. Many firemen, it is claimed, have no desire "even a little bit," to participate in police work and believe that policemen generally, feel the same way about fire department work, but that personnel are to some extent being goaded into combination organizations. Critics are also speculating over the fire loss records of integrated service communities. There seems to be considerable sentiment that when big fires occur integration will disintegrate because of inherent weakness described as (1) inability, because of combined duties and probable lack of on-duty manpower, to cope with the rarer large loss fires and (2) competency not comparable with the efficiency attainable by men whose sole responsibility is fire extinguishment and fire prevention (where members participate in both fire service activities).

If a fire department is a lazy organization, it has its counterpart in the police service, other opponents declare, and deride the notion that assigning police duties to firemen will cure such a situation. Many fire authorities, it is pointed out, already have prescribed increased departmental activities and have launched such programs as dwelling inspections, company inspections and other intra-department projects. These men hold no brief for integration; for their personnel has no time for "exterior" activities involving other departments of the municipality. It is also the opinion of certain fire chiefs that many fires have been "lost" in the past which modern fire fighting tactics and up-to-date equipment and training will "save" in the future—if adequately staffed departments are permitted to operate. They agree that the salary inducement is important to any program for increased activity for firemen, but that such should be confined to fire department work.

In Time of Stress, Both Services Are Pressed

The fact—and there's no disputing this point—that at the time of a major fire both police and fire services find themselves pressed to the limit in fire fighting, rescue, traffic and crowd control work, is cited by most fire chiefs as the principal argument against integration.

Supplementing combined services with fire house sleepers to augment paid manpower is a plan which has been employed as long as fire stations have been staffed, but there appears to be difficulty in some communities even obtaining the sleepers of quantity and quality required. Savings to taxpayers and increased fire department efficiency may be effected to some extent if sleepers are on duty regularly to the extent that night manpower is adequately increased by men with some training and experience. However, such "call men" or volunteers who respond in the daytime can not be considered offsetting a shortage of paid personnel except to a very limited degree as far as grading is concerned. Mutual aid arrangements, if prearranged and on a running card basis, will help the local situation as regards response. Small municipalities in the main do not attempt to provide for Class I manning and the time will probably never come where such local officials will approve and be willing to finance full fire company manpower, so at best some sort of compromise arrangement must be anticipated. The compromise labeled "integration of fire and police services," though seemingly adequate in examples cited does not appear to have the "staying power" necessary for general acceptance in smaller cities. Another slant which has been expressed is that propaganda appearing in support of combined departments attaches undue importance to the idea and appears to be part of a planned campaign to institute such a system in municipalities where fire and police departments are small. As stated, no matter what plan is to be employed, both departments (or the combination) will be understaffed in such communities. It is a well known fact that most cities are undermanned according to National Board of Fire Underwriters standards, especially in the group up to 25,000 population.

The National Board's special interest bulletin No. 300, Nov. 30, 1953, has considerable to say on the subject. Of particular significance is the following:

Activities of Both Fire and Police Highly Specialized

"It must therefore be recognized that the fire department activities, as well as those of the police department, are highly specialized; and the services each performs are diversified and vastly different in every aspect. The personnel attached to each department must receive continuous, specialized schooling and training in their respective fields if they are to execute efficiently, their various duties and assignments." The bulletin also declares that "the two types of work, namely that of a fire department and that of a police department are quite incompatible."

Coming from the insurance rate establishing agency (through grading) these words have considerable significance, although they do not necessarily mean that any and all forms of integration are "out," because the same bulletin also states that "The National Board of Fire Underwriters is sympathetic with any municipal economy move which does not adversely affect the over-all public fire protection of a city or town and thereby imperil the lives and property of its citizens . . . ."

Well, there you have it, pro and con! The battle lines are drawn—and who knows, YOU may be drafted into this experiment for the cause of . . . economy?

Not exactly. Some proponents insist, perhaps with some justification, that this idea (combined departments) offers the best opportunity to make full utilization of the on-duty time of fire and police personnel. Of course this can mean only one thing to a fireman—he's going to work by a time table in a combined fire and police organization. He's going to do some patrol work, desk watch, perhaps, and attend to other unfamiliar duties. One day he may be on a manhunt, or handling snarled traffic at a football game, and the next he'll be battling a two-alarmer with hose line or axe. He certainly won't lack a variety of tasks to perform. Some believe, however that firemen will be no more "miserable" in the setup than police.

The question is: "Is Integration Bad?" Is it wrong, unreasonable or stupid for municipal officials to require this type of jack-of-all-trades performance on the part of firemen and policemen? Is it a practical, workable or sensible solution to the municipal public safety problem in smaller cities?

In certain communities there appears to be some justification for combining forces, to a limited extent at least. One thing is certain. Some municipal officials and students of municipal affairs are convinced that they have arrived at a reasonable solution for a perennial budgetary and manpower problem. "Public Management" magazine's staff member James' recent report makes these deductions: "Some limited generalizations can be made from the experiences of the six cities considered (Grosse Pointe Woods, 20,000; Grosse Pointe Shores, 1,200; Huntington Woods, 5,000, three Detroit suburbs, and Sunnyvale, Calif., 15,000; Trois Rivières, 50,000, and Shawinigan Falls, 27,000, the latter two in Quebec, Canada). . . . "To provide service without either neglecting or overemphasizing any element of the work is the basic problem of integrated public safety operations, but that problem is administrative rather than technical. . . . It is well known that at times certain parts of the total police or fire program have been woefully neglected and others magnified out of all proportion when a city or department administrator has been unwilling or unable to give proper balance to all his responsibilities." An examination of a list of communities operating various forms of combined police and fire services shows a predominance of small size municipalities. Places where full time paid organizations of both fire and police have existed independently—except for one instance—have not attempted to integrate. It is plain that in most places where the combination has been implemented, the only fully paid public safety agency was the police department at the time, so the decision to "integrate" was certainly not momentous and can be assumed to have been planned as a transitory solution, or an outright experiment. The public, of course, is likely to accept the arrangement until or unless disaster strikes, and will then insist upon an accounting if all does go well. It will be at that time when the system will be really on trial and not until that time.

Method Aimed at "Sitting Ducks"

Of course the adage "Nothing Tried, Nothing Gained" can be employed to defend such departures from traditional type services. And lest the fire service be harsh in judging the acts and motives of those who are sponsoring of supporting integration, let's recognize that these people are not insincere and that they are trying their best to solve the increasingly pressing problem of municipal financing and budgeting. One highly publicized method advocated, the combining of fire and police personnel in a single or dovetailed organization, does have one strong point in some localities: it is aiming at the "sitting ducks" in the fire service and police service, with emphasis on the former. It is designed to alter the system where firemen sit and wait for fires—granted a lot of night fire control work is done and sleepless nights "enjoyed" by firemen which is unseen by those, who, when seeing a firemen sitting while the clock ticks in the daytime condemn the act and call for "full utilization of municipal em-

(*Continued on page* 440)

Fire Service Ventilation in Principle and Practice

Part VII—Below Street-Level Ventilation (Basement and Sub-Basement)

By ROI B. WOOLLEY
Assistant Editor

Editor's Note: **Previous Chapters in this series on fire service ventilation have covered the fundamentals of modern ventilation and the purposes, requirements and limitations of this essential to modern fire attack and rescue.**

This Chapter takes up what is perhaps the most difficult of the many problems of this complex subject, that of bottom, or below-street-level, ventilation. As in earlier installments, the author has drawn at length upon the experiences of practical firefighters, as well as from the theories and principles advanced by scientists and students of ventilation. Believing that the whole subject of low-level ventilation can best be spot-lighted by actual case histories, the author has supplemented these other data with evidence drawn from typical fire records.

The editors wish to thank the publishers of "W.N.Y.F." for their cooperation in providing details of the Ritz Tower Hotel fire.

FOR the purposes of this study, when we speak of low-level, or below-street-level, or sub-surface ventilation, we are referring primarily to basement or cellar, and sub-basement ventilation. And the problem of venting such areas may involve all the previously described fundamental methods of ventilation, vertical or overhead (top) ventilation, and horizontal or lateral (side, or cross) ventilation.

There are cellars, and basements, sub-basements and sub-sub-basements. And there are voids under some buildings, or below street surfaces that are neither basement nor cellar, but which can be a headache, literally and figuratively, for the fireman.

Although the practical fire fighter knows about basement hazards, it may be well to quickly review the conditions and circumstances that make this particular phase of ventilation such a difficult and hazardous undertaking.

Generally speaking, the basement, whether of dwelling or business place, is the least known, least visited part of a building; the only exception perhaps being a dwelling which must be entered frequently by the householder, meter reader and others. But in mercantile and other structures, few persons but the janitor or watchman, or other employees, have reason to spend much time in this "no man's land."

Usually, the basement is a place of storage (somewhat like the dwelling house attic). Important to remember, also, is the fact that it is the heart of the heating, lighting and refrigeration systems, at least in buildings of any size. Here, usually, the gas and electric cut-offs are located, along , note this, with the gas meters and fuse boxes. Fuel for the heating plant, with the exception of gas, of course, is also encountered in these areas.

An important factor in any considera tion of basement ventilation, and one which bears most importantly upon fire spread and extension, is that of the relation of this area of a building to vertical arteries and channels, such as elevators, dumbwaiters, laundry chutes and so forth. In this respect the basement is frequently the terminus of avenues connecting the below-street level areas with the upper floors, and even the roofs of structures.

In any study of ventilation it is well to keep in mind this relationship between basement and the balance of a building, because the factor has a direct bearing on (1) origin, location and cause of the fire; (2) fuel upon which it is feeding; (3) possibility of extension; (4) source of hazards incidental to the smoke and gases resulting from the combustion processes.

In short, the basement area should be the first place to be checked for the source of fire that is not showing, but which has filled a building with smoke. As stated in earlier Chapters, a fire may originate and involve a basement, but because of the channels or arteries connecting that basement with the rest of a structure, the *evidence* in the form of smoke may be very deceptive and lead a fire fighter to the conclusion that the seat of the fire is somewhere else, possibly a considerable distance removed from the basement. Thus, heavy smoke conditions on the top floor and around the roof structure of a building do not necessarily indicate that fire has already involved those areas, the blaze itself may well be below street level. However, presence of smoke does indicate that, unless prompt action is taken, fire may well *follow* into the areas charged with the smoke and gases. Wherever smoke can go, fire can also travel.

The presence of these vertical or other arteries or channels constitutes both a hazard and a benefit in our contemplation of sub-surface ventilating. The danger, as said, lies in their becoming flues for the fire; the advantage is that they may offer channels for removing the smoke, and gases, thereby ventilating the charged areas. Whether they become bane or blessing lies in the ability to quickly locate and control the fire, and confine it to its below-surface level.

If this reasoning is correct, it follows that prompt survey and size-up of the fire situation is imperative. That survey should develop the procedures and promptness with which the attack on the fire, and collateral ventilating operations, should be carried out.

In this respect (prompt size-up and rapid attack), basement ventilation practices differ little in fundamentals from

Photo courtesy Philadelphia Bureau of Fire

Recent basement fire in Reading Terminal, Philadelphia, punished firemen, although use of masks and fog, and power air movers, prevented serious injury to personnel. Here sub-areas are being vented via sidewalk gratings. Note ladder placed over opening for protection of personnel.

overhead vertical or horizontal venting. The principles of ridding charged areas of contaminated atmospheres are, for the most part, the same. However, as we shall point out, below-street-level ventilating does present *added* complications and hazards. There is greater element of uncertainty, and greater possibility for misjudgment and other errors, in basement ventilation than in any other form of opening up. More fire fighters have been killed or injured in fighting these below-ground-level fires than in any other category. It is safe to say that in no other form of ventilation is it so imperative that there be close cooperation and coordination between the crews engaged in venting and those whose duty it is to find and extinguish the fire. Lack of teamwork under these conditions can have serious results, both as to injuries to fire forces and as to spread of the fire.

Because they play such an important part in venting basement and other subsurface areas, it is well to take into account all arteries, or channels, through which smoke and fire can travel from sub-surface areas and which, likewise might under favorable conditions be utilized for venting such areas. As will be seen from the table below* some types of buildings have numerous channels; others have few. It should be pointed out, also, that the deeper below ground level the area involved is, the fewer such connecting vertical arteries there are available for possible ventilation purposes.

Another factor which bears upon consideration of below-surface ventilating is that water and sewer connections, between the building and domestic water and sewer systems, usually terminate in these sub-surface areas. The connections may not immediately relate to ventilation of the low level areas, but they may play an important part in the operation, should breaching of street, sidewalk or basement foundations be undertaken either for fire fighting, ventilating or rescue.

Photo courtesy Philadelphia Bureau of Fire

Philadelphia fire fighters breaching heavy concrete floor in effort to get at smoky Reading Terminal basement fire. Note absence of smoke, indicating how effectively sub-areas are sealed off.

*(Chart) This chart does not attempt to include all the construction features which may be employed in the venting of every different type of below-level occupancy in time of serious fire. It will be noted that it is limited to vertical arteries. The reader can himself add such details as sidewalk gratings, fire doors, etc.

	Basement Windows	Elevator	Laundry Chutes	Stairways	Dumbwaiter Shafts	Pipe Risers	Light or Air Shafts	Ash Hoist Sidewalk	Heating and Air Conditioning Ducts	Shipping Chutes	Ramp	Open Studding	Wastes Chutes
Single House	✓		✓	✓		✓			✓			✓	
Double House	✓		✓	✓	✓	✓	✓		✓			✓	+
Multiple Dwelling	+	✓	✓	✓	✓	✓	✓	+	+			✓	✓
Apartment House	+	✓	✓	✓	✓	✓	✓	✓					
Mercantile (Multi-Sty.)		✓		✓		✓	+	✓	✓	+		+	✓
Taxpayer (One-Sty.)	+			✓		✓	✓	✓	+	+		✓	+
Office Building				✓		✓	+	✓	+	+	+	+	
Hospital Building	+		✓	✓	✓	✓	✓	✓	✓		+	+	✓
School Building	+			✓		✓	+	+	+			+	+
Church	+			+		✓		+	+			+	
Warehouse				✓		✓	+	+	+			+	
Factory (Mult-Occ.)	+	✓		✓	+	✓	+	✓	✓	✓	+	+	✓
Garage Building	+	+		✓		✓	+	+	+		✓	+	+

✓ = Have + = Possibly have

Construction features that influence basement ventilation.

Many Fires Originate in Basements

A clue to the importance of basement, or below-street-level ventilation is found in the available statistics on the origin of fires in buildings.

According to the National Board of Fire Underwriters, one-third of all home fires start in the basement. That area, and the kitchen, mark the location of the vast majority of fires in such occupancies.

In the mercantile field the picture is even worse. Figures released by the National Fire Protection Association show that out of 5,203 fires in this category where the origin of the fire was determined, 2,122 started in the basement (excluding sales basements). The N.F.P.A. says "Percentage-wise, this means that 42.7 per cent of the fires in these mercantile stores started in the one place less frequented by employees and the public than any other part of the store. Such basement fires go longer before being detected, have larger amounts of combustible materials upon which to breed, and spread horizontally and vertically with greater freedom from restrictive fire division walls than do fires starting in other portions of the usual type of mercantile store." They might have added, also, that these fires were harder to ventilate.

The incidence of basement fires is likewise high in the church group. Out of some 300 such fires studied by the N.F.P.A., 107 originated in the basement. Incidentally, of the church fires reported, 153 structures were totally destroyed. The N.F.P.A. comments on these data as follows: "Any program of fire prevention should give first consideration to a study of the fire safety of all heating units. It is conservatively estimated that more than one-fourth of all church fires are caused by faulty insulation or operation of furnaces and water heaters . . . overheated furnaces account for 22.3 per cent of those (fires) analyzed.

The annual reports of various municipal fire departments, as well as the fire loss statistics prepared by fire insurance rating boards and others, attest to the importance of the basement as the place

of origin of fires, and the difficulty in locating and extinguishing such fires.

Thus, in the 1947 Annual Report of the New York Fire Department (a typical year), for example, it is shown that out of a total of 20,829 building fires, 11,067 were in tenements. Of these the greatest number originated in the cellar. This was true both as regards "old law" and "new law" tenements. There were 1,688 basement fires in the "old law" tenements, and 1,529 in the "new law," or a total of 3,217 as compared with 2,672 fires originating on the first floor, the next sized group in the table.

The manner in which these fires extended provides some information on the question of ventilation. Here is the table:

MANNER IN WHICH FIRES EXTENDED

By Way of	Old Law	New Law	All Tenements
Pipe recesses	9	6	15
Halls and Stairways	1	2	3
Dumbwaiter & Elevator Shafts	16	18	34
Windows	5	1	6
Lath & Plaster Partitions	16	8	24
Flooring	12	4	16
Light & Air Shafts	10	1	11
Doors	11	2	13
Cocklofts	6	5	11
Extension totals	86	47	133
Confined to starting point	5,761	5,173	10,934
TOTALS	5,847	5,220	11,067

More on Sub-Surface Ventilation Hazards and Procedures

We have outlined some of the reasons why venting sub-surface fires is difficult and more of a problem than ventilating at top level over a fire. There are a few other considerations worth observing.

In overhead ventilating it is usually possible to provide ventilation to relieve a smoke-charged atmosphere to the extent that men can work in the structure; but the underground floors rarely offer such opportunity for ventilation, the exception being the normal one, or one-and-one-half-story and basement dwelling.

Under the circumstances, men can work only for a limited time in smoke-charged atmospheres and even where suitable respiratory protective equipment is available the heat may force them out.

In operating on sub-surface fires, an attempt is made to reach the cellars by the usual means of access such as stairways, elevators or other shafts, or ramps. But conditions may make this physically impossible and it then becomes necessary to make such openings and to resort to every means possible in order to carry off the smoke and gases of combustion. If there are sidewalk lights, these may be broken open; sidewalk doors may be opened; holes may be cut in floors or walls (in extreme emergency). This is where the ingenuity of the fire fighter can be profitably employed.

The openings that may be cut in floors, walls and partitions to get water on the fire may be expected to serve as flues for the escape of the contaminated atmospheres. However, they may, unless adequately "covered" by the attacking force, provide the means of fire extension. Hence the need, in serious sub-surface fires, of plenty of respiratory protective equipment both for those doing the ventilating, and the fire fighters who must advance the lines, and hold their positions against the possible spread of fire through the vents made to enable them to attack the fire. As we have pointed out previously, opening up, especially below ground level where oxygen at best is none too plentiful, may accelerate the fire by providing it the oxygen upon which it will thrive. This operation frequently means a rapid build up of the heat.

A cellar belching forth smoke and gases like an active volcano may be beyond human endurance at close quarters, in which case there may be nothing left but to turn streams into it from every available opening, and drown out the fire. This means, naturally, not only water-soaking all the contents of the sub-cellar, but in the cellar as well; it may mean spreading of the water through the foundation walls into adjoining cellars, with consequent water damage in other premises.

Such operations usually are prolonged and it is difficult to anticipate all the obstacles and dangers to which the attacking force will be subjected in the operations. We reiterate, the firefighter best fortified *with advance knowledge of the occupancy, what is burning and where,* is in the best position to overcome the handicaps that develop.

Operation of Hose Lines Affects Sub-Surface Ventilation

Every experienced fire fighter knows that operation of hose streams, particularly water fog and heavy sprays, may have a decided bearing upon ventilation of an area, and this is particularly true with sub-surface fires.

Simultaneous operation of hose lines, at cellar fires, in opposite directions, tends to hold the heat, smoke and gases in the cellar area and may create atmospheric turbulence that can have disastrous results. On the other hand, if strong hose streams, using heavy spray, or even better still, heavy water fog discharges should conditions permit, are used at one end of a sub-surface area, the heat, smoke and gases may be driven through outlets at the other end of the structure or area. Of course this presupposes the fact that there are such openings available.

We have mentioned venting by cutting floors over a basement or sub-cellar fire. Many authorities advocate this only as a last resort. Here, again, it depends upon many imponderables, the type of occupancy, the kind and thickness of floor, whether or not such opening will result in extension of the fire, and so on. It is true that, under normal circumstances, opening of a floor over the cellar fire area will afford almost instant relief to the companies in the lower level, trying to advance hose lines. It also provides means to utilize cellar pipes and distributors through the openings made.

Some officers believe that under these conditons, if an entire length of floorboard can be taken out, rather than to attempt to cut a number of individual openings, this affords quicker relief, and is less destructive of property. Care of course should be used to protect all such openings, however made, both by means of hose streams and against the possibility of injury to operating personnel.

Where interior openings are made over a fire, it is usually necessary to take steps to create a livable atmosphere in the area above the cellar by opening up doors, and transoms, raising or lowering window sash, or if necessary, breaking out plate glass.

If a floor directly over a cellar fire has congested stock storage of a highly combustible nature, it is a matter for the officer in charge to decide whether openings in the floor should be made, but it is very necessary to have cellar pipes, distributors, etc., and a charged line or lines available at the moment floor openings are made. Furthermore, in making such openings, a pike hook should be used to push down plaster or metal ceiling of the floor below to insure a clear outlet for the charged atmospheres.

Six-Hour "All Hands" Hotel Basement Fire

We have said that the difficulty in locating sub-surface or basement fires has been one of the chief reasons for the spread of those fires, with resulting complete involvement of the structure.

In this respect the problem of ven-

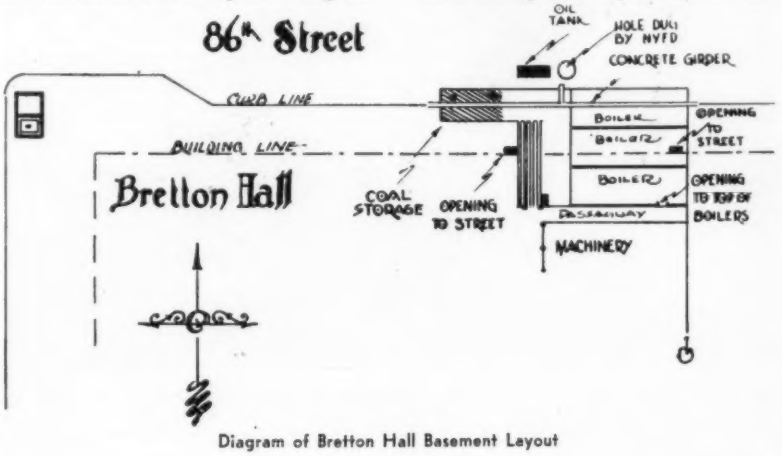


Diagram of Bretton Hall Basement Layout

tilating fires which occur below street-level, as we have also said, is far more acute and troublesome for the fire fighter, than any other.

Every metropolitan fire department has at some time encountered fires of this type, which present problems of venting the structure to locate and extinguish the fire out of all proportions to the importance and magnitude of the fire itself.

The following case history, taken from the files of the New York Fire Department, will illustrate the point.

This was a one-alarm fire, which did but "trifling damage," but required six hours of strenuous work by the assignment, most of the time being spent in the effort to vent a below-street-level area.

At 2:28 P.M. on October 11, 1944, signal station 1166 was transmitted by the Manhattan Fire Alarm Office for a fire in the Bretton Hall Hotel, 86th st. and Broadway. The responding units included Engines 56 and 74 and ladders 25 and 22 under Chief John M. J. McGowan of the 11th Battalion.

Engine 56 and Ladder 25, the first-due companies, upon arrival were confronted with thick clouds of yellow, acrid smoke rising from a row of three iron gratings set in the sidewalk close to the building line. Building employees were operating a garden hose into the center grating, with no apparent effect. There apparently was a delay in notifying the fire department.

The scene of the trouble was the boiler room in the basement which resembled the fire room of a ship. From the sidewalk down to the boiler room was a 15-foot iron ladder for use of the engineer and other employees. This ladder led to a platform in front of the fire doors of the boilers, of which there were four, three being in use. These resembled the big Scotch type marine boiler with high fire doors. To their right, running to the rear, was a 4-foot wide passageway, culminating in what might be called a porthole, which provided the only means of access to the top of the boilers.

Upon arrival, the crew of Engine 56 were ordered to stretch a 2½-in. line down the engineer's ladder into the boiler room. At this time yellow smoke indicated burning pine, and the odor of burning wood was distinct, although there was no visible confirmation of these surmises, or just where the fire was located. That it was near the boilers appeared certain, however, and these were ordered shut down by Chief McGowan.

In the meantime the crew of Ladder 25 had opened and removed all three sidewalk gratings over the boiler room. This was the only ventilation possible under the circumstances, as there were no windows, due to the length of the cellar. All doors leading to the lobby of the hotel were closed to prevent passage of smoke into the upper part of the building.

The fire was eventually discovered amid dense fumes, on top of the boilers, in wooden forms which encompassed concrete beams extending from front to rear of the engine room ceiling, from one side wall to the other.

With considerable difficulty men of Engine 56 stretched their line through the narrow corridor alongside the boilers to the small opening at its end. From this point they directed the stream toward the fire. Due to the limited space between the girders and beams supporting the sidewalk and the tops of the boilers, the stream was ineffective because of lack of penetration. It was necessary to actually get on top of the fire in order to hit it.

In single file, the firemen worked their way through the small porthole leading to the top of the boilers, pushing the line of hose along with them. Their progress, however, was halted by the sidewalk underpinning and soon the intense heat and noxious fumes made this position untenable. The men were ordered out and to direct their stream from the corridor in an effort to cool things off.

An attempt was then made to reach the seat of the fire by frontal approach. Deputy Chief Warren S. Barton, 4th Div., ordered Ladder 22 to raise portable ladders to the top of the boilers and ordered Engine 74 to stretch a second line and operate from this position.

This maneuver failed because it was found there was less working space at this point at the rear. The narrow opening between the underside of the sidewalk and the top of the boilers was barely enough for the hose line, due to ceiling I beams projecting within 10-in. of the tops of the boilers.

Measurements of the boilers were then taken with the intention of special calling the air compressor unit to make an opening in the street over the boiler room.

The measurements disclosed some interesting facts. The boiler room extended from the building line four feet beyond the curb line. Further investigation revealed that originally the sidewalk had been 40 ft. wide, but in 1937, 86th St. had been widened 20 ft., thereby narrowing the walk to 30 ft. This meant that the boiler room, which was then under the sidewalk, would extend out under the roadway, necessitating additional reinforcements for the ceiling of the room to offset the heavy vehicular traffic.

The reinforcement consisted of con-

Photo courtesy Miami Fire Department

The rule is never to attempt to ventilate basement (or other) fires by opening fire doors. Here an insufficiently protected doorway permitted fire and smoke to extend to exposures with increased smoke and water damage.

Use of breathing apparatus permits New York City fire fighters to carry on the fight to extinguish fire in the basement of this aluminum equipment plant in the Bronx, in which six workmen died. Note use of straight ladders and open windows venting first floor.

Where Ritz Tower blasts killed eight New York firemen. Victims had just been removed by way of 35-foot ladder in sidewalk shaft (left). Basements still charged with smoke and ammonia fumes. Note window drapes hampering ventilation. These were shortly removed, with additional glass. Note chairs and debris blown out of building.

Note the barred basement and first floor windows of this mercantile occupancy. The only hope here is to break them out, if bars cannot easily be removed. Note also small basement "half-windows" which can be used for basement ventilation, but which open on the base of the fire escape drop ladder.

crete and steel girders. Wooden forms were laid for the concrete, the concrete poured, sidewalk and roadway repaired, but the wooden forms were never removed, no doubt because of the difficulty in getting at them. It was these forms that had become ignited by the heat conducted from the boilers.

To the crowds that congregated, it appeared that the roadway was burning, as smoke emerged from racks and crevices in the street. At 3:05 P.M., the air compressor unit in charge of Lieutenant Harry M. Irwin of F.S.S. No. 1 arrived, and after consulting with public utilities officials to ascertain the location of gas and water mains and electric service conduits, the work of cutting through the concrete was started.

An opening 4-ft. square and 5-ft. deep was made, 3-ft. beyond the curb line. This exposed the ceiling of the engine room. A Baker cellar pipe was inserted into this aperture and shortly the fire was extinguished.

In overhauling, portions of the wooden forms removed were found 100% charred, tangible evidence of conduction of heat from the boilers over a long period of time. Overhauling, like ventilating, was done under the most adverse conditions. Due to limited space, only one man at a time could work in the involved area. The heat still emanating from the boilers, and the smoke and fumes from the smoldering wooden forms, were almost unbearable, even when partial ventilation was effected. Firemen required frequent reliefs. All work had to be done in a prone or crouching position.

This incident, which is not exceptional in cities, demonstrates the importance of pre-fire, first-hand knowledge of all important occupancies and also of having available all the requisite facilities to effectuate ventilation under any and all such conditions.

Ritz Tower Explosion Costly Example of Sub-Basement Hazards

Probably no fire in a generation so illustrates the hazardous problems of subsurface ventilation as the fatal blast in New York's Ritz Tower Hotel on August 1, 1932. It brought the New York Fire Department one of its worst tragedies.

The 41-story, Class B hotel, completed in 1926, is located at the corner of 57th St. and Park Ave., Manhattan. It is of fire resistant construction, 80' by 130', with two basements and a cellar below ground level.

The alarm from Box 924 was transmitted at 10:36 A.M. that August morning, calling Engines 8, 39, 23 and 65, and Ladders 2 and 16, with Chief John J. Ryan, 8th Batt., and Michael F. Powers, 9th Batt. (now assistant chief). Upon receiving the report that all hands were operating, Acting Deputy Chief James F. Roche, 3rd Div., responded.

First-arriving units found no evidence of fire and at first believed the call a malicious false alarm. An employee of the hotel, however, advised the first-due officer there actually was a fire in the sub-basement paint-room of the hotel.

Men of Engine 8, under Capt. George F. McGinty, immediately stretched a 2½-in. line through the service entrance on 57th St., at the east end of the building, and down two flights of steps to the sub-basement. Eng. 39, commanded by Capt. William McDonald, started another line down the same stairs to back up No. 8. The crew of Ladder 2, under Capt. John A. Herold (later, deputy chief) also entered the sub-basement. As these men descended, they encountered little smoke.

Lieut. James Hartnett, commanding Ladder 16, ordered his men to remove the steel doors covering the exterior service elevator shaft, located approximately 25 ft. east of Park ave., which led to the sub-basement.

After removing the doors, a 35-ft. ladder was lowered into the shaft which led to the sub-basement, and members of Engines 23 and 65 stretched lines to the shaft entrance and prepared to descend.

When the crews of Engines 8 and 39 and Ladder 2 reached the sub-basement level, they were met with a pall of heavy, black, oily smoke. They advanced their lines about half way through the sub-basement to a point where several steps led to a higher level of the floor. This upper level was partitioned into several storage rooms. One, approximately 7-ft. by 7-ft., with terra cotta walls and metal ceiling, was used for the storage of paints, and contained a lacquer type material made with pyroxylin base and acetone solvent (this product was later removed from the market by the manufacturer).

A narrow passageway ran between the paint storage room to the left and a storeroom for trunks on the right. The fire was apparently in the paint storeroom, but because of the heavy smoke and acrid fumes (none of the working crews had masks) it was impossible to locate the door leading to the storeroom.

Members of Ladder 2 were ordered to the floor above (the basement) in an attempt to ventilate from that point. However, upon reaching the basement they found that a 12-inch concrete floor separated the basement from the sub-basement. At about this time Rescue 1 was special called to bring respiratory protective equipment. A police emergency squad, also with masks, was soon at the scene. In the meantime, Chief Ryan donned an all-purpose mask that was carried on the battalion rig and entered the passageway in a vain attempt to locate the door of the paint room. Captain McGinty obtained an ammonia mask from the hotel and also endeavored to find the door, but this equipment proved inadequate and he was forced back to the steps leading to the lower level.

While this was happening, Lieutenant Hartnett, Ladder 16, and Lieutenant John H. Cosgrove, in command of Engine 65, with their men had descended the ladder leading down the street shaft and advanced Engine 65's line to the sub-basement. Chief Ryan was still in the narrow, smoke-charged passageway

(*Continued on page* 447)

FIFETEEN CHILDREN PERISH IN FIRE IN SCHOOLHOUSE BUILT TO BURN

Fast Spread of Blaze in One-Story Structure Reported Caused By Open Doors

FIFTEEN children died as a result of a fire that swept a one-story frame annex of the Cleveland Hill Elementary School, Mapleview Drive, Cheektowaga, N. Y., shortly before noon, March 31st, last. Many other students and several adults suffered serious burns and other injuries.

Although four separate investigating agencies have not as yet issued a report on the cause, sufficient evidence exists to determine the main contributing factors in the tragedy. The first is the use of a highly combustible frame structure, long "unstopped" hallway, for school purposes; second, permitting storage of combustibles on the same floor with, or near the classrooms; third, lack of comprehensive inspections and fire drills; fourth, failure to provide sufficient safe, easy means of exit for pupils, and last but not least, lack of automatic fire detection and fire alarm notification systems.

At this writing, testimony is still being taken by the Grand Jury, which was given the case; only about 10 per cent of evidence collected has been released, meanwhile as one authority said, "everybody is suing everybody else." It is reported, however, that investigators have turned up no evidence of the presence of illuminating or other gas. There is testimony indicating the fire had been smoldering for some time. But the source of the "explosion," variously described by witnesses and victims has not as yet been identified.

Another contributing factor, if one is to draw upon the evidence of quoted testimony, is the fact that the door of the classroom in which the deaths occurred was open at the time of the incident, and apparently never closed, permitting the heat, smoke and gases to enter the single room in which the pupils were gathered, to be followed almost immediately by flames. Nor can the windows be ignored as a further contributing agent. It is said that practically all those who escaped from the area of the building first dominated by the fire did so via the multi-paned winodws. The pupils themselves were unable to break out these windows sufficiently to permit egress in any numbers, nor were there sufficient male personnel on hand to quickly force them. According to one FIRE ENGINEERING informant, undoubtedly the opening of the classroom door and the long, hallway, extending the entire length of the structure, brought a draft, and accelerated the involvement of the classroom when the openings, few as they were, were made in the windows. The speed with which the fire traveled the entire structure and completeness of the destruction is indicated by the accompanying illustrations.

Searching for bodies after the Cheektowaga fire was all but extinguished.

Cheektowaga school fire at its height.

The story of the fire can be quickly told. Thirty-one pupils and two female teachers were in the room of the Annex, or nearby, at the time of the outbreak. Witnesses say that at the time of what is termed an explosion, the regular teacher, Melba Siebold, was about to turn the class over to a practice teacher, when the puff of fire came. The teachers both endeavored to aid their charges to escape, and were injured in the attempt.

The windows were either broken out with fists and hands, or music stands, or other things which could be grabbed up. The fire appeared to be coming from a room across the hall, used to store scenery for a forthcoming play, according to some witnesses. Other reports indicated that scenery was being painted in this area.

All evidence points to the rapid spread of the fire, which was quickly through the roof of the center section of the building. An alarm was turned in to Cleveland Hill Fire District 6, and Cleveland Hill Volunteer firemen were quickly on the scene, directed by Fire Chief Robert Jones. Help was immediately called from neighboring fire forces, including Buffalo, and fire departments from Pine Hill, U-Crest, and three rescue companies of the Buffalo

Department responded. The latter sent its Assistant physician, Dr. Max Schneider.

Ambulances from Sisters', Emergency, Mercy and Kenmore Mercy Hospitals were called. The Amherst Town ambulance also took some patients to Meyer Memorial Hospital. Buffalo police squads started for the scene before the Department received the call for help. Their services were needed because, as the news of the disaster was flashed over the radio and later by television, crowds of the curious swarmed into the area.

Fire fighters, handicapped somewhat by snow and wire fences, broke in some windows, but were unable to enter the structure. Immediate attention, also, was given the protection of exposures. In this they were successful in confining the blaze to the annex although some adjoining property was blistered and smoked.

The fire started at 11:35 A.M., and an hour later the eight-room building had burned to the ground. According to Chief Jones of the Cleveland Hill Volunteer Fire Department, the fire apparently started in the scenery room on the east side of the annex and across the hall from the music room in which the burned bodies were found. His opinion was that the fire was spread by an explosion resulting from an accumulation of smoke and heat.

Water pressure available to fire companies fighting the fire was reported so low in the early stages of the struggle that water streams carried only a few feet, according to a fireman who arrived on the scene about 10 or 15 minutes after the alarm. He checked the gauges on one of the pumpers and found it was registering a vacuum. Firemen requested police to ask the Erie Water Authority to start emergency pumps, but they said satisfactory pressures were not available for about an hour. It was pointed out, however, that the lack of water pressure had no direct bearing on the deaths and injuries to the school's students.

The annex was 150 feet in length by 60 feet width. The single floor was raised atop four courses of concrete block. Construction throughout was combustible, the floors, walls, ceiling and roof being of wood. Plasterboard was used in the interior partitions. There were two entrances to the long dividing passageway running north and south the length of the building. Steps at each end of the passageway led to exit doors. A fire door reportedly had been placed at the south end where the passageway connected with a runway joining wings of the main school building.

The furnace room was located just south of the center of the building, and reached by a flight of steps which led down on the west side of the passage. Adjoining the steps to the south was the music room, and across the hall from this a teachers' room, lavatory, stockroom, and a large art room, at the southeast corner of the structure. North of the passageway leading to the furnace room was a cleaning room and rooms for boys and girls. Directly across the hall from these was a teacher's work room. Four other rooms, all vacant, (two on each side of the passageway) occupied the northern half of the building.

Surrounding a part of the grounds was a wire mesh fence, parts of which were cut away by firemen in their effort to get at the fire.

Charred remains of Cheektowaga school building which was levelled in one hour by fire.

Portland Fire Taxes Force

Fire, which broke out in the 8-story Neustadter Building 501 S. W. Ankeny Street, Portland, Oregon, Feb. 4th last, gave fire fighters responding on three alarms a long, hard workout.

The fire was discovered within 10 minutes after the last employee is understood to have left the building. The Fire Department received the alarm at 5:44 and, by the time first-due companies were at the scene, the blaze was traveling through the structure. Second and third alarms were sounded in rapid order, bringing a total of 28 pieces of equipment and approximately 200 fire fighters into action.

The Neustadter Building faces on Ankeny street and on Fifth avenue. The first, and second floors and basement were occupied by the Pacific Distributors and were stocked with household goods and plastic toys. The third, fourth, fifth and sixth floors were mainly empty and used only for occasional storage. The seventh and eighth floors were filled with business furniture of the D. C. Wax Company. The building was brick joist construction with laminated floors. It was built 48 years ago to house a shirt manufacturing business.

The fire originated from an unknown cause on the second floor rear and quickly spread to an open elevator shaft, up which it roared to the top of the building. Within minutes the flames had spread throughout the structure.

Fire fighters were forced to fight the blaze from the exterior, using ladder pipes on aerial ladders, deck pipes and hand lines. Off-duty firemen were summoned as were extra squads of police to control the large crowd of the curious.

Ten firemen and a photographer were injured, some by glass which showered on them when windows on the Fifth ave. side of the building were blown out. Only one fireman was hospitalized. Water and smoke damage was suffered by adjoining premises.

Property loss was estimated at $250,000.

*Acknowledgement is made of information on this fire supplied by E. G. Werner.

March Fire Losses

Estimated fire losses in the United States during March amounted to $84,821,000, it was reported by the National Board of Fire Underwriters.

According to Lewis A. Vincent, NBFU's general manager, this $84,821,000 loss represents an increase of 1.6 per cent over losses of $83,471,000 reported for March, 1953, and an increase of 7.5 per cent over losses of $78,928,000 for last February (1954).

Losses for the first three months of 1954 now total $250,242,000 an increase of 7.5 per cent over the first three months of 1953, when they amounted to $232,836,000.

These estimated insured losses include an allowance for uninsured and unreported losses.

Safety Flare Starts Destructive Blaze

A roaring lumber-fed fire that consumed a millwork company in the Town of Greenwich, Conn., with loss estimated at $200,000 had a unique origin. It was caused by a road safety flare, thrown many feet into the tinder-like plant, by a heavy motor vehicle.

The fire was discovered shortly before 5:30 P.M., on April 8th, last, in the office building and plant of the Gustav Johannson Millwork Co., on the Boston Post Road, at Mianus Bridge, Town of Greenwich, Conn.

Nearly a third of the wooden frame building was ablaze when a passing motorist reported the fire. By the time the fire fighters of Old Greenwich and Cos Cob arrived, flames were shooting high in the air and out onto the Post Road. The Cast Optics Co., Inc., a few feet away from the millwork plant was blistering from radiated heat.

Greenwich Fire Headquarters clocked the alarm at 5:28 P.M., and alerted Old Greenwich and Cos Cob stations. In all, eight pieces of apparatus were dispatched to operate on the blaze. Fire Chief Stuart Potter was at the Cos Cob station when the alarm was received and reached the scene ahead of the equipment. At that time the fire in the millwork building was beyond control, and as the forces arrived efforts were directed to preventing extension of the fire.

The intense heat ignited telephone poles across the wide Post Road, and trees a considerable distance from the blaze. However, the worst threat was the wooden office and factory of the Cast Optics Co., the roof of which was quickly ignited. Firemen fought this fire in terrific heat of the main blaze, which then fully involved the 150-foot millwork structure; and were successful in preventing complete involvement of the Optics' structure. Six autos parked near the Cast Optics plant were damaged and a barge moored alongside the lumber plant caught fire. This burned to the water, but two boats were successfully towed away from their exposed positions in the river, which runs alongside the burning property.

Directing the fire fighting operations were Greenwich Chiefs Stuart Potter, and Deputy Chief Henry Crawford, and Chiefs Henry McElvery of Sound Beach (Old Greenwich) and George Thomsen of Cos Cob. They headed a force of over 100 volunteers and permanent paid men. Large details of Police, under Greenwich Police Chief Gleason and Deputy Chief Robbins, handled the jam of traffic that tied up the busy Post Road (U.S. Route 1).

The discovery of the cause of the blaze came about through the report of a woman who, from her house west of the bridge, had seen a truck on the Post Road knock the lantern off the highway, into the millwork property. From this clue, Chief Potter and his aids were able to locate the offending cause, which proved to be one of the metal smokepots used as "lanterns" to mark excavations being made in the busy Post Road. Firemen working in the ruins the next morning found the smashed "lantern," the top having been crushed as if by the wheels of a heavy vehicle.

It was determined that the flare had been standing on the Post Road in the eastbound lane at the foot of Riverside Hill. It had to fly over a four-foot stone wall and some 30 feet through the air to crash through the window of the millwork building. Failure to report the odd mishap promptly permitted the fire to build up, feeding on the combustible contents of the structure, and then, when it broke to the outside, to be carried by the wind throughout the premises.

Photo by Nick Verderosa

The Greenwich fire as it appeared shortly after the arrival of first due company. Only two lines had been stretched at time of picture. These lines were used to cover exposure 30 feet to left of burning building (not shown).

Photo by Hack Wilson

Arrow shows highway flare rolled between retaining wall and building by passing vehicle. It caused fire at Greenwich.

The editors acknowledge with thanks the cooperation of Chief Stuart Potter and the Greenwich Fire Department. Also the material on this fire submitted by Norman Knobel and others.

Fatal Anchorage A. F. Hospital Fire

An Army Air Force nurse died in a flash fire on Feb. 3rd last, which swept through the west wing of the 5005th Air Force Hospital, 10 miles north of Anchorage, Alaska. Twenty-one other nurses fled through the only other exit not involved by fire in their nightclothes while winds up to 50 miles an hour fanned the flames.

The fire, which caused an estimated $100,000 loss, was controlled after a long fight by 185 military fire fighters, who cut off the extension of the blaze to other sections of the rambling one-story station hospital.

A total of 186 regular hospital patients, many of them small children and stretcher cases, were evacuated to Anchorage's new Alaska Service Hospital. Among the patients were eight women expecting babies. Six hospital members were treated for smoke exhaustion and shock.

(*Continued on page* 449)

21 FIREMEN HURT IN $3 MILLION BROOKLYN WAREHOUSE FIRE

Falling Wall Damages Three Pieces of Apparatus. Five Alarms Sounded for All-Day Dangerous Fire

A Staff Report*

TWENTY-ONE firemen and two policemen were injured, five of the firemen seriously, in a five-alarm fire that destroyed a three-section four-story old brick warehouse on the Erie Basin waterfront on Jan. 15th, last.

New TV sets reportedly worth $2 million were destroyed. The total property damage was estimated at $3 million. Forty pieces of fire apparatus and two fireboats and a Coast Guard cutter fought to prevent the stubborn fire from extending to other structures in the high hazard area. In the all-day struggle they were successful, but in the operation a falling wall badly damaged Ladders 101 and 131, and Engine 203, and injured members of their crews.

The three-section warehouse, which occupies an entire block between Buttermilk Channel and Summit street at Imlay street, was built during the Civil War and used as an ammunition depot. It was owned by the New York Dock Co. and leased to Molkor Warehouse Corp., to store television sets and parts for CBS-Columbia. It is reported between 3,800 and 4,000 black-and-white sets and about 8,000 cabinets packed in cardboard cartons were destroyed.

The fire was discovered by workmen in the warehouse at 209 Commercial Wharf, who were unloading a freight car. One pulled Box 1379 and the crew of Engine 203 on Imlay street could see dense smoke and flames shooting out of both sides of the warehouse all the way across Imlay street as they rolled in.

Adjoining sections at 208 and 207 Commercial Wharf were quickly ignited. The blaze spread a heavy blanket of smoke over the Brooklyn waterfront and some smoke entered the ventilators of the Brooklyn-Battery Tunnel, slowing traffic.

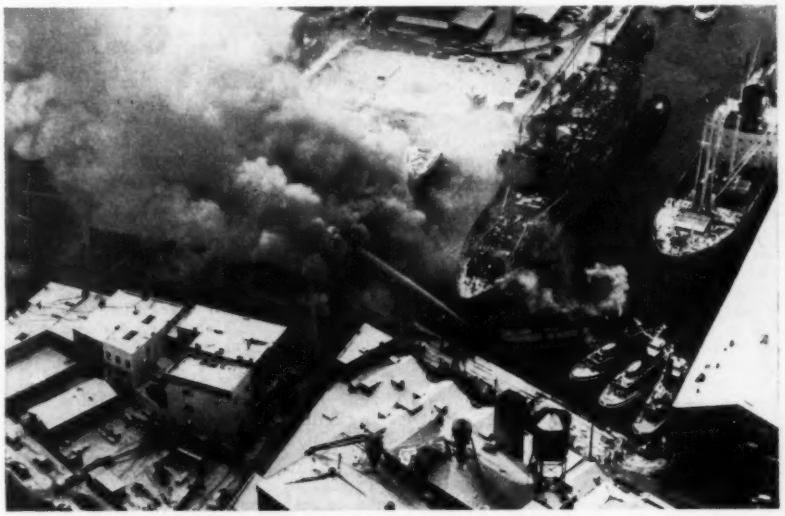
Heavy streams from fireboats as well as from deck pipes and ladders were directed on the fire from all sides. Several lines were operated from an adjacent ammunition-case factory, the Knight Electric Products Co., but it was mid-afternoon before the threat of further extension was averted.

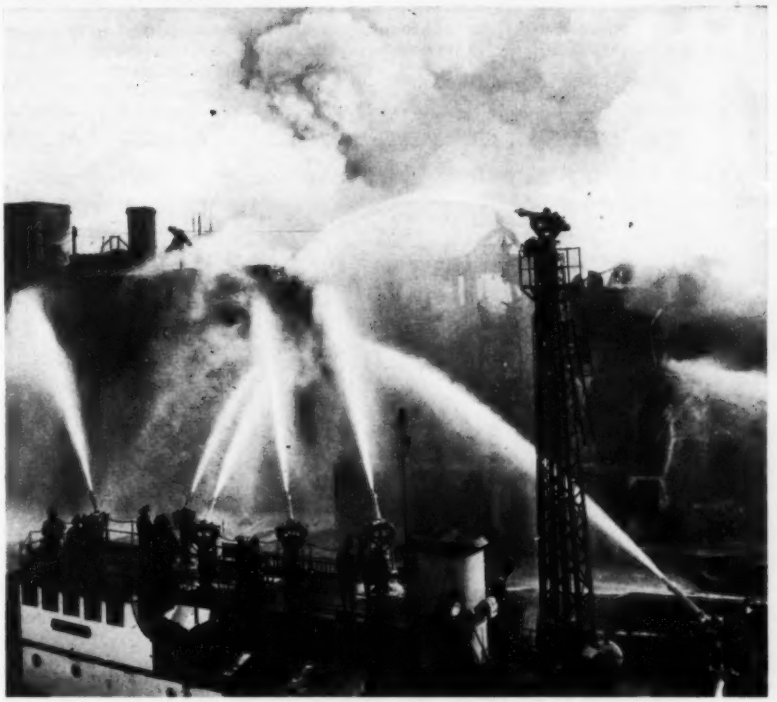
In order to permit passage of fireboats and remove threats to spread among the craft in the Basin, a Navy Transport was hastily towed away from the wharf.

In the meantime, firemen erected an aerial ladder against the rear wall of the warehouse in which the fire started. Several firemen were on the ladder when an explosion shook the structure and the wall began to crumble. The ladder was badly damaged, and the men on it were hurled into Imlay street. Others were partially buried by the debris that cascaded into the street. All were quickly dug out by their comrades and the seriously hurt were rushed to hospitals. Two who were on the ladder were Carmine Izzillo, Eng. 202, and Francis Brunner, Eng. 203. Acting Batt. Chief Percy Tweedale of the 48th Battalion, Captain William Neilan of Eng. 203 and Fireman Malachy J. Morris of the 48th Battalion were removed to hospitals with serious injuries. Three firemen of Eng. 203, Larry Marra, Charles Bernius and Thomas Roarke, themselves hurt by the falling wall, helped pull two superior officers out of the debris.

The cause of the fire was not determined. Chief Fire Marshal Martin Scott

(*Continued on page* 451)





*The editors extend appreciation for material upon which this report is based to members of the New York Fire Department, particularly the Brooklyn Fire Alarm Office, and to Wm. Jerome Daly.

Top: Smoky, stubborn fire in Erie Basin high hazard area caused injuries to 21 firemen, badly damaged three pieces of fire apparatus. Transport in picture was moved to clear way for fire department fireboats.

Bottom: Engine 57, the "Fire Fighter," the nation's most powerful fireboat, directs water barrage on burning Brooklyn warehouses at a fire which raged out of control for hours.

FIRE TESTS IN ROOM OF DWELLING GIVE DATA ON GASES, TEMPERATURE

Forest Products Laboratory Tests Disclose Interesting Figures on Fire Involving Simulated Dwelling Room

RECENTLY the Forest Products Laboratory of the U. S. Department of Agriculture, Madison, Wis., conducted a series of burning tests with a fourfold purpose: (1) to obtain information on the rate at which temperature rises when a dwelling room is on fire; (2) to measure the magnitude of the air pressures developed in a burning room; (3) to learn the composition of gases in a burning room, and (4) to observe how a fire may be influenced by furnishings, wall materials, and amount of draft.

Tests were made in an 8 x 12 ft. test room, having 8 ft. ceiling, within the Laboratory's concrete fire-test house. The room had two wood-frame windows and one wood door, the latter paneled in exterior grade plywood. Roof was of ¼-inch cement board, covering ceiling joists. Floor was 6-inch softwood floor covering laid on softwood subfloor.

Two walls were hollow cement tile with no interior paneling. Two other walls were conventional wood-frame of 2 by 4-inch softwood lumber studding, finished outside with Portland cement stucco on metal lath. Interior surfaces of these two walls, and ceiling, were covered by nailing various materials in each test to studding and joists. The floor was finished with two coats of gray floor enamel and different finishes were used on the walls in the different tests.

Mock-up furnishings to simulate chairs, tables, a bookcase and hall tree were made out of sweetgum lumber. Chairs were upholstered and furnishings finished with mahogany stain and lacquer. Furniture was conditioned to a moisture content for the tests, and arranged in the room on simulated rugs. There were drapes, table covers and simulated clothing on the hat tree. Total weight of combustible materials in the room was 375 lbs. or about 3.0 lbs. per square foot of floor space, which is considered about within the normal limits for an occupied dwelling room in this country.

Six inlet draft ports, 8 x 16-inch, were installed along the bottom of the two cement block walls and seven outlet ports were located along the tops. These were open to full draft in four tests and partly closed in two to diminish the supply of oxygen and provide more favorable conditions for production of carbon monoxide.

After considerable experimenting with waste-paper baskets and other common causes of fires in dwellings to find a dependable and standardized method for starting the fires, a crib was chosen as the ignition source. It was made of 36 pieces of ¼ x ½ by 12-inch sweetgum, and was set next to a chair near a table and ignition provided by igniting a large piece of filter paper wet with 25 cubic centimeters of gasoline. Thus ignited, the fires had an accelerated start compared to accidental fires that smolder or burn slowly in the early stages. Fire progress was recorded by observers with stop watches, by black and white and colored photographs and motion pictures, and by thermocouples in various parts of the room. Extinguishment was by water sprinklers before serious damage was done to wall and ceiling framing members.

At various stages of the fires, gas samples were taken, and air pressures and temperatures recorded. Transfer of heat through wall panels was secured by means of thermocouples.

The "critical point" in these test fires was reached in 4 to 7 min. It was rapidly followed by increasing temperatures and burning action that would be unbearable to human beings.

The wall and ceiling materials, whether combustible or non-combustible, had little effect on the time or temperature of the critical point. The nature of the fuel (furniture) and the direction of the flames, however, did affect the rate at which the fires became critical.

Because conditions varied for each fire and only one test experiment was made, the conclusions drawn are limited. The following summary of results, however, is said to be justified by these tests:

1. Nature of fuel had an important effect on the rate at which the dwelling room fire became critical. In one test it became critical in 4.30 min., and in another fire, 10.50 min. because of differences in combustion of the wood cribs and simulated furniture.

2. Small differences in proximity of pieces of fuel or the chance direction of flames toward or away from combustible material played important part in the time required for the fires to become critical. In one test fire became critical in 5.50 min.; in another it took 7.05 min.

3. Within the burning rooms, with walls and ceiling of either combustible or noncombustible wall board and with openings of a size frequently present in such a room, increase in air pressure developed was very slight and never approached explosive magnitude. At no time during the progress of the fires, even immediately preceding, during, or after the flash-over, were excessive air pressures developed.

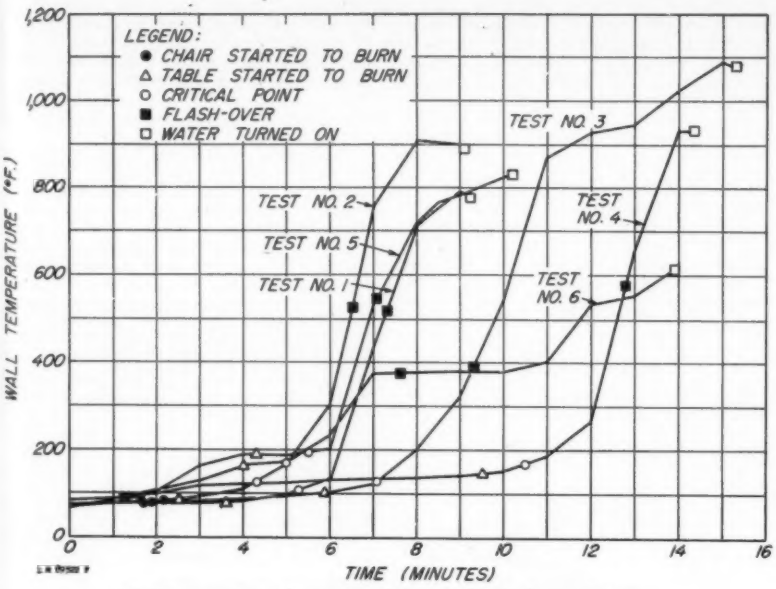
4. In these tests, regardless of type of board used on the interior walls and ceiling, the rate of temperature rise within a room during the early stages of the fires was slower than that of the standard time-temperature curve of the American Society for Testing Materials W119-47. During the flash-over stage, however, the rate of temperature rise was faster than that of the standard curve, except in the case of a fire retarded by damped ventilation.

5. Radiation from fire in the center of the room raised the temperature of combustible materials of and near the wall, including fibre insulation board, plywood, woodwork of doors and windows, drapes and clothing, to the ignition point.

6. Nature of walls, whether plaster, fire insulation board, or plywood, had little or no effect on the time or temperature of the critical point and only small effect on the splash-over. Regardless of the type of wall material or the rate of temperature rise in the early stages, "fires of conflagration proportions" eventually developed. The flash-over

Sample No.	Time samples were taken	Constituents of gas samples: Carbon dioxide	Oxygen	Carbon monoxide	Unsaturated hydrocarbons	Saturated hydrocarbons (calculated as methane)	Hydrogen
	Min.	Percent	Percent	Percent	Percent	Percent	Percent
1	0.1	0	20.8	0			
2	3.0	1.5	20.0	0			
3	6.0	2.6	17.8	0			
4	6.8	13.6	3.3	2.6			
5	7.4	18.4	.8	5.8			
6	7.9	17.2	2.1	4.5			
7	8.6	16.9	.9	5.7	1.0	1.3	6.6
8	9.2	18.1	1.0	10.0			
9	9.7	10.4	2.3	13.8	1.6	1.2	6.0
10	10.1	15.2	1.7	12.8	1.8	1.5	5.6
11	10.5	11.7	6.9	3.4			
12	11.2	2.4	17.6	.7			

Composition of gas samples taken during one of the burn-out tests.



Wall temperatures (averages of four walls) in burn-out tests.

occurred in all cases at a wall temperature too high for human life.

7. The maximum length of time after initial ignition that a person could reasonably have stayed in these burning rooms ranged from 4.30 min. to 10.50 min. (avg. 6.29 min.). By this time, the burning contents of the room had advanced the fires to a stage hazardous to human life. After 6.5 to 12.8 min. (avg. 8.09 min.), the whole room was enveloped in flame, and escape would have been unlikely or impossible.

8. Carbon monoxide was produced in toxic concentrations in these test fires, both with plasterboard and fibre insulation board as the wall and ceiling materials, although the concentration of this gas varied considerably, depending upon the supply of air to the fire and its path through the room. The intense heat would have made the burning room unbearable by a human occupant before the carbon monoxide. An upstairs room, however, into which fumes from the fire might have been rising, would probably have been made unbearable first by smoke and toxic gases.

9. It can be concluded from these test fires that the customary furnishings of most dwelling rooms provide enough fuel to create a serious fire regardless of whether the walls or ceilings are combustible or non-combustible. Once a fire is started, it spreads not only by direct contact of the flames and by movement of hot air and combustible gases through channels not provided with fire stops, but also by elevating the surface temperature of combustion materials to their ignition point by direct radiation.

Bill Stops "Hogging" of Party Lines for Fire Calls

Having in mind the disastrous results of telephone party line subscribers "hogging" the phone when someone is trying to put through an emergency call for fire or other services, Governor Thomas E. Dewey of New York State has signed a bill making it a misdemeanor for any such interference.

The Bill is known as *An Act to amend the penal law, in relation to malicious obstruction of emergency telephone calls,* and it adds a new Section to the penal law of the State known as 1424-a to read as follows:

Party Line: Refusal to yield in emergency.

1. Any person who shall wilfully refuse to immediately relinquish a party line when informed that such line is needed for an emergency call to a fire department or police department or for medical aid or ambulance service, or any person who shall secure the use of a party line by falsely stating that such line is needed for an emergency call, shall be guilty of a misdemeanor.

2. "Party line" as used in this section means a subscribers line telephone circuit, consisting of two or more main telephone stations connected therewith, each station with a distinctive ring or telephone number. "Emergency" as used in this section means a situation in which property or human life are in jeopardy and the prompt summoning of aid is essential.

3. Every telephone directory hereafter distributed to the members of the general public in this state or in any portion thereof which lists the calling numbers of telephones of any telephone exchange located in this state shall contain a notice which explains the offense provided for in this section, such notice to be printed in type which is not smaller than any other type on the same page and to be preceded by the word "warning" printed in type at least as large as the largest type on the same page: provided, that the provisions of this section shall not apply to those directories distributed solely for advertising purposes, commonly known as classified directories, nor to any telephone directory heretofore distributed to the general public. Any person, firm or corporation providing telephone service which distributes or causes to be distributed in this state copies of a telephone directory which is subject to the provisions of this section and which do not contain the notice herein provided for shall be guilty of a misdemeanor.

This Act shall take effect October first, nineteen hundred fifty-four."

Old Dobbin Still King in One Fire Department

With the coming of April's spring weather seven horses embarked for green pastures and a well-deserved rest. During their seven-month vacation they will hold their heads high with a rather self-satisfied feeling their kind hasn't been entirely replaced by oil and gas mammoths.

Every winter, from December to April, they have an opportunity to strut their stuff, and last year the horses were a factor in saving two buildings during heavy snowstorms in St. John's, Newfoundland.

This Canadian city of 55,000 population is probably the only city in North America where the fire department still uses horses. Because of steep hills and severe blizzards, the seven horses are hired by the department every December and are kept standing by until the cold weather clears.

(Continued on page 441)

Large Shop Leveled by Fire at New Milford

Damage was estimated at $100,000 in a fire at New Milford, Conn., on Feb. 11, which leveled a 100-foot long building which housed a shop, office and supplies of A. Sega and Sons, contractors in the Still River district. Destroyed in the fire were a unit shovel, a bulldozer, two air compressors, a hydraulic press, cable, $3,000 worth of tires, lubricants, tools, five truck loaders, and new and used parts. A tourist cabin 75 feet away was scorched by the heat of the flames. Cause of the fire, which gave New Milford firemen a four-hour battle, is unknown.—Tom Magner.

News of the Manufacturers

Notifier Remote Control and Fire Station Receiving Panel

Notifier Manufacturing Company, 239 So. Eleventh St., Lincoln 8, Neb., has announced an automatic remote control and fire station receiving panel which, in effect, according to the Company, makes the fire station dispatch officer a "full time night watchman within every building protected by Notifier's auxiliary fire detection equipment."

In smaller towns, the equipment automatically (1) sets off the town fire siren; (2) indicates exactly which building has an incipient fire; (3) sounds a local alarm and shows the location within the protected building where the fire has started.

Fire starting in a building protected by Notifier system is quickly detected in its early stage, the manufacturer claims, even before any flame appears. A thermostat is activated, sending a message to the auxiliary control panel, where a relay indicates location of the incipient fire and sounds a local alarm, and transmits an electrical message to the remote control and fire station panel. The alarm bell rings and indicator lights flash at the fire station the moment the message is relayed from the auxiliary panel, and the fire department is able to swing into action without delay.

The panel is listed by the Underwriters Laboratories.

Miami International Airport Gets New Crash Truck

Fire Chief Frank Hisey of the Dade County Port Authority, International Airport, Miami, Florida has received a new FWD Airport Crash Truck built to his specifications and said to be the first unit of its type.

The new piece is primarily a F1000T pumper mounted on a four-wheel-drive chassis, with a 240 H.P. engine used only for propelling the truck. A Waterous 500 gal. high pressure pump is powered by an independent 180 H.P. V-8 engine. Rockwood foam proportioner equipment is supplied by a 100-gal. tank for foam concentrates. A 1000 gal. water tank is also incorporated in this self-contained fire fighting unit.

Two 360 deg. manually operated Rockwood turret guns mounted above the cab, well forward, enable foam to reach the heart of the fire. Augmenting the turrets are two 200 ft. high pressure booster hose lines. The vehicle also includes the usual complement of fire fighting and safety equipment.

The extreme fire and crash potentiality of busy International Airport led to Chief Hisey's assistance in developing the special FWD unit. International Airport, according to the Chief, sprawls over some 5,000 acres, averages a passenger or freight airliner takeoff or landing every 3 minutes, 24 hours a day. The responsibility for guarding the Port, according to the Chief, is a man sized job, and one that calls for the utmost in fire fighting and rescue equipment.

Chief Hisey and International Airport's new truck.

"Sure Fire Escape"

The "Sure Fire Escape" has been introduced by K. & H Manufacturing Co., Patchogue, L. I., N. Y., as a portable fire escape ladder.

The device consists of welded steel adjustable frame, having a pressboard platform, galvanized wire cable stringers and metal tube rungs. The "hook-on" is adjustable to fit the thickness of any wall, and permit the escape device to be stored rolled up, ready for quick use. The device measures 17½ inches wide, 14 inches high, and 23 inches deep and weighs approximately 20 pounds.

Roll Memo Pad for Rapid Writing

To facilitate rapid handing of messages and memoranda, particularly in moving vehicles, Mayer Manufacturing Corp., 3140 W. 51st St., Chicago 32, Ill., has introduced the Roll Master Memo Pad. This measures 9½ in. long x 3¼ in. wide and comes complete with 250 ft. adding machine roll 3-7/16 in. wide. The entire unit weighs only one pound.

The roll pad is equipped with a knob control which enables the user to take long or short messages without stopping to get a new sheet of paper, by giving the knob a slight twist, moving the paper forward.

According to Robert E. Wright, vice-president of the corporation, the roll memopad is rapidly being adopted by users of radio equipment such as fire forces for taking messages while in transit. In addition, the pad finds advantageous use on fire station watch desks, fire alarm offices, to speed fire dispatching, and in fire department administrative offices, etc.

The unit is low in cost and may be had in brown crackle, gray crackle or deluxe chrome finish. Complete information will be sent upon request, by the above company.

Lum Fire Nozzle Gets U. L. Approval

The Underwriters Laboratories have issued a favorable report on the Lum Pro-Tec-Tive spray type portable fire nozzles, manufactured by George F. Lum, 8903 Mandale Ave., Detroit, Mich.

The single head is easily adjusted to fog or straight stream; there are no small openings to clog up, and the shut-off operates freely under various pressures. It is also stated that the Lum Nozzle responds quickly to adjustments for different fog patterns without a decrease in the water pressure.

Acme Offers New Guide on Hazardous Gases

To meet the need for a comprehensive list of hazardous gases and equipment recommended to protect against them, Acme Protection Equipment Co., Chicago manufacturers of gas masks, has just published the Acme Protection Guide for Hazardous Gases.

The tabulation shows a total of 433 gases, fumes, mists and dusts present in operations where a gas mask should be worn. Included is descriptive information, limits for determining safe working conditions, and listing of the type of Acme canister designed for each specific hazard. For convenience and easy reference of users, the Guide presents the gases in alphabetic divisions.

Free copies can be obtained direct from Acme Protection Equipment Co., 3037 West Lake Street, Chicago 12, Illinois.

New Kenco Portable Pump

A new portable pump for fire fighting and other uses has been introduced by Kenco Pump Co., 1125 North Ridge Road, Lorain, Ohio.

Model 114 Portable, as it is known, is self-priming, has no valves or moving parts other than the motor pump impeller and seal. It is said to deliver 100 G.P.M. at lowest head and is capable of forcing water to a maximum height of 100 ft. It has a suction lift of up to and including 25 ft.

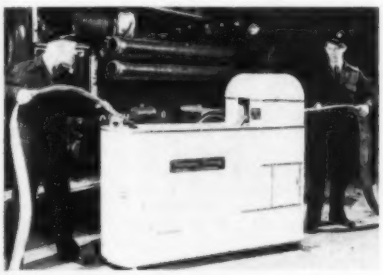
The open-faced impeller reportedly will handle all of the solids passed by the Kenco suction strainer on the suction hose. However, both impeller and wear-plate can be quickly replaced should occasion demand. Intake and discharge connections are tapped for 1½-in. pipe thread. The pump is powered

by the re-designed Briggs & Stratton 1½-HP engine. The complete outfit of pump and engine weighs only 65 lbs.

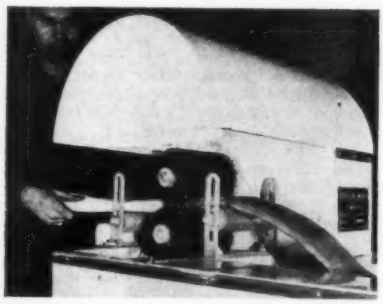
The manufacturer has issued a colorful folder on the Model 114 available on request.

Hose Gets That "New Look"!

Fire fighters are agreed on one thing —cleaning hose is a real chore. Now comes a mechanical hose scrubber to put hose cleaning in the same category as mechanical hose drying.



Hose cleaner in operation.



Hose cleaner opened up to show action of brushes.

This new device is the product of Kessler Sales Corporation, Fremont, Ohio. It is said to remove dirt and grit from hose that looked clean and had been maintained by hand for some years. There is little escape of water during cleaning operation, therefore the task can be done in the fire station, and off the street.

Brush wear is reported negligible and an internal adjustment assures long brush life under normal usage. The brushes clean both top and bottom, and also the side-edges of the hose. They rotate against the movement of the hose so that reciprocating scrubbing action can be obtained on particularly dirty spots.

The manufacturer reports an effective job of cleaning is done without use of any detergents.

Fyr-Larm Has U.L. Listing

"Fyr-Larm," the single-station, local fire alarm which operates on the temperature rise principle, has received Underwriters' Laboratories listing.

As previously described in FIRE ENGINEERING, the device is intended primarily as a simple local fire alarm suitable where the normal room temperature does not exceed 100 deg. F. It is installed near the ceiling, and operates automatically when temperature reaches 136 deg. F. for one type, and 158 deg. F. for the other.

Ultrasonic Transducer Detects Fire

Latest in the field of electronic fire detection and alarm devices is the "Alertronic" invented by Samuel Bagno, vice-president of the Alertronic Corp., Long Island City 1, N.Y., and produced by the company of that name.

The device operates on ultrasonic sound waves, bouncing from walls inside the protected room. These sound waves are so highly pitched that they cannot be heard by human ears; they report the entrance and movement of any human intruder, and detect the movement of warm air masses above a new born flame. It is said that when installed to meet the rigid requirements of the insurance underwriters and connected to a central protective system, the Alertronic system enables users to qualify for a 60% reduction in insurance premiums.

The system reportedly protects valuable installations in the American Museum of Natural History in New York and is used by R. H. Macy Co. department store and in some AEC installations.

New Winco Power Units

Light weight, for easy carryability, has been stressed in the two new engine-generators announced recently by the Wincharger Corporation of Sioux City, Iowa.

The Wincharger Company's F2500 delivers DC electricity, has an output of 2500 watts with four-115 volt outlets, and weighs 148 lbs.

The F3000, Wincharger's companion unit, delivering AC instead of DC, with 2000 watts continuous capacity, 3000 watts starting capacity, four-115 volt outlets, and likewise, weighs 148 lbs.

The light weight of these two units has been achieved partly through the use of an aluminum base and aluminum guard, and also by re-designing in order to obtain greater compactness and balance.

New Winco Power Unit

The company also emphasized that the Wisconsin AKN and Briggs & Stratton #14 engines supplied with these units, are powerful enough to develop the necessary horse-power for running a portable tool.

New Bullard Fire Kits

The E. D. Bullard Company, 275 Eighth St., San Francisco, 3, Calif., has introduced two new First Aid Fire Kits for fire department use.

These are specifically designed for fire service and are known as "Fire Department Kits Nos. 124-FD and 136-FD." Kit 124 contains 21 essential items, and Kit 136 has 31 items. These are available in both safety green (standard color for all first aid kits) or red.

The Bullard Company, which is also known for its fiberglass fire helmets, has a new colored folder describing its first aid equipment available on request.

Ward LaFrance Announces Changes

F. Norman Tracy has been named vice president and general manager of Ward LaFrance Truck Corporation, Elmira, N..Y, in a series of promotional appointments announced by J. G. Grossman, company president.

F. Norman Tracy

Tracy joined Ward LaFrance in 1945 as district sales manager, has held the posts of assistant sales manager and sales manager, and since 1951 has been vice president in charge of sales.

Other Ward LaFrance appointments by Mr. Grossman are E. L. Decker, new sales manager; John J. Valego, appointed purchasing agent; and Robert C. Hill, named as assistant to Tracy.

Eastman Model 10 Turret

The Samuel Eastman Co., Inc., Concord, N. H., has introduced a new, smaller, less expensive but highly efficient fire fighting turret—the Model 10. It can be mounted on any piece of fire apparatus or trailer, is one man operated, and locks into position at will.

The complete story is told and pictured in an attractive new 14-page Bulletin No. 1-54 issued by the company.

L.A. Fire Dept. Campaign Hits Juvenile Rock-Throwers

Chief John H. Alderson of the Los Angeles Fire Department recently secured the aid of that area's newspapers in campaigning against juveniles who pelt fire apparatus with debris.

The renewed drive started after Capt. John Rucker of Engine 81 suffered a severe eye injury and cuts when he was struck in the face with a bottle thrown by a juvenile while on fire duty.

"Scarcely a day goes by in Los Angeles that our firemen do not notice that rocks or other objects bounce off their rigs while en route to emergencies. These instances heretofore have not been made public because no one is hurt and little damage done to equipment," said Chief Engineer Alderson.

The campaign tied in well with a newspaper drive against Mexican "Pack Rat" gangs which stormed into downtown streets, attacking citizens. Other juvenile delinquencies also were running high at that time. PAUL C. DITZEL

Short Cuts and Gadgets

HOW SAN DIEGO SOLVED STANDARDIZATION THREAD CUTTER PROBLEM

By this time it is no secret that the State of California has a standardization program for fire hydrant and suction hose threads. But it may be news to many that it wasn't as easy to accomplish the re-threading job as it was to launch the program.

Down San Diego-way there was no delay in starting work on the thread cutting, but there was a snag or two, the worst one being that when the female fittings were tapped out, there was a partial feather edge left, which interfered with the proper engagement of the Higbee cut.

Necessity being the mother of invention, Fire Chief G. E. Courser of that city and his Master Mechanic, Battalion Chief Robert Ely, put their heads together and the latter came up with a thread cutter that removed the feather edge thread easily, without removing the couplings from the suction hose. This thread cutter worked so well that the Department developed another thread cutter that shaved the feather edge thread off the male fittings. The net result was that these San Diego-born gadgets—if we dare call the devices that—are now being used throughout the State of California to assist in the 4-in. standardization program.

Chiefs Courser and Ely are interested in the whole problem of fire thread standardization and are willing and eager to see any fire department concerned with the same problem, make fullest use of their device to finish their feather edge fittings with a Higbee cut. Their thread-cutting equipment, developed in their Shops, will do a smart job of cutting off the feather edge of a fire hydrant, suction hose or fire hose. They can be used on fire hydrants in the field, with the use of a portable power unit to furnish power to operate the electric drill motor.

Here are the instructions:

1. To put the tool in operation: Back off on wing nut "A" which allows cutter "B" to disengage from the cutting position.
2. Loosen thumb screw "C" enough so the tool can be screwed on the male fitting until it bottoms.
3. Back off on tool one-half turn and tighten thumb screw "C" until a slight drag is felt when screwing the tool on and off.
4. Screw tool on until it hits the stops which are adjusted so the Higbee cut will start in the proper place.
5. Attach ½-inch drill motor to cutter shank "D" as shown in picture No. 2. Hold drill motor in proper alignment and start motor.
6. With the drill motor running, slowly tighten up wing nut "A" until it is tight against its stop. This procedure has engaged the cutter at the proper place and proper depth.
7. With the drill motor still running, slowly unscrew the device from the male fitting until the feather edge thread is cut off.
8. Shut off and remove drill motor. Loosen thumb screw "C" and unscrew thread cutting device.

To put the tool in operation:

1. Clamp a one-half inch drill motor in a bench vise.
2. Attach ½-inch drill motor to the cutter shank "D" shown in picture No. 5 and let the thread cutter handle hang down and rest on the bench.
3. Start drill motor and slowly screw on female coupling until it hits the stop. Then unscrew the coupling from the cutter and it is finished.

* * *

Figure 1 shows the thread cutting device and the operating parts of the tool.

Figure 2 shows the thread cutting device in place on a hydrant and ready to remove the feather edge of the thread.

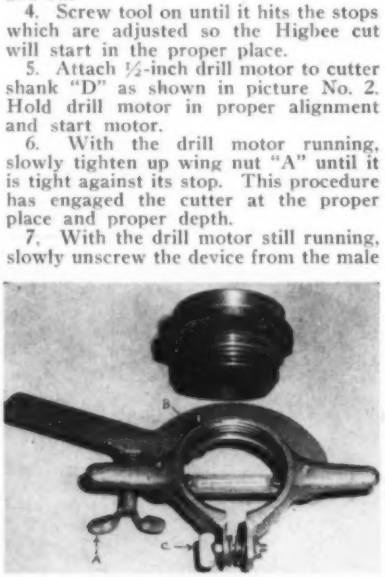


Figure 3 shows the back side of the thread cutting device and a fire hydrant pumper nozzle that has had the feather edge thread finished with a Higbee cut with the use of the above tool.

Figure 4 shows the thread cutter and the operating parts of the tool that cuts the feather edge thread out of the female coupling.

ON NUMBERING FIRE HATS

Our roving reporter spotted this one in Portland, Oregon, where the members of the Portland Fire Department have identification insignia marked in bold white on the back of their fire hats. First time we've seen such insignia on the rear of working helmets. (Note picture of Portland firefighters ventilating apartment house fire on the front cover of this issue.)

* * *

BRITISH "SHOCK CARD"

In the February issue (page 143) appeared a note about a card containing information on how to treat persons suffering from electric shock, which must be displayed in premises where electrical energy is generated, transformed or used above "low pressure."

We are pleased to print a copy of a letter received from Mr. John R. Denton of Ernest Been Limited, Ltd., Bouverie House, Fleet Street, London EC4 as follows:

"I read with interest your remarks about the electric shock card that we publish (on page 143 of your issue of February 1954).

"You did not mention that we produced this card, but we feel that some of your readers might like to have a copy of it. This could be arranged through our agents in America, Messrs. John de Graff, Inc., 64 West 23rd Street, New York 10."

Hartford Wins Inter-Chamber Award

Hartford, Conn., led winners of the awards in the 1953 Inter-Chamber National Fire Waste Contest, with top honors of the Grand Award. Other winners, in the six population classes were: Detroit, Mich. (Class I); Dayton, Ohio (Class II); Norfolk, Va. (Class III); Lansing, Mich. (Class IV); Billings, Mont. (Class V); and Valley City, N. Dak. (Class VI).

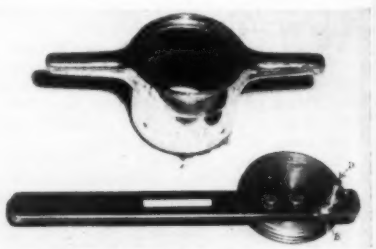


Figure 5 shows the thread cutter and a 4-inch suction hose female coupling that has just had the feather edge thread removed.

"There is hose that will still be in service when I retire!"

naturally, it's

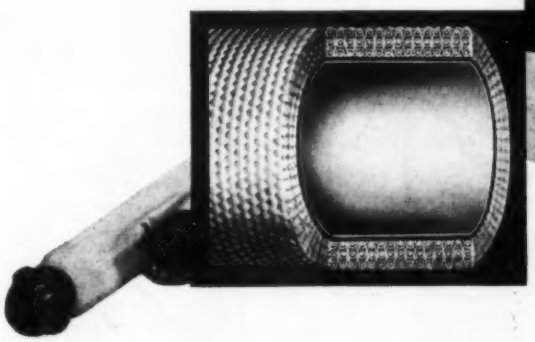
EUREKA

Multiple-Woven

Users know it's not uncommon for Eureka MULTIPLE-WOVEN fire hose to remain in active service for 20 or even 25 years. They know, too, that in the long run MULTIPLE-WOVEN is the most economical, the most continuously dependable fire hose they can buy!

True, its initial cost may be nearly *double* that of the lowest priced approved hose. But, if a length of Eureka MULTIPLE-WOVEN outlasts four or five lengths of the cheaper hose, then top-quality MULTIPLE-WOVEN *actually costs less than half as much in the end!*

In addition, you get the benefits of such special features as *balanced weaving* and *controlled curing* which eliminate excessive writhing of the hose under pressure, and a *smooth-surfaced rubber lining* which assures maximum nozzle pressure, plus the unique *circular-multiple-woven jacket* in which all plies are woven *and interwoven* into a single tubular covering that cannot harbor water or dirt! And, finally, you have the satisfaction of buying fire hose from a specialist.



Note how criss-crossing vertical cords tie all plies into a single jacket.

"For greater protection to life and property"

EUREKA FIRE HOSE

Since 1875, Specialists in Manufacturing Circular-Woven Cotton Rubber-Lined Fire Hose

195 Hudson Street • New York, 13, New York • *Division of United States Rubber Company*

FALSE ALARMS

"You say the building's on fire
and out we must go?
If you'll just wait a moment
I'll let them all know!"

Courage

The Texan was talking with the New Englander and doing considerable boasting. He recited how a few men held off armies at the Alamo.

"You never had any hombres back East as brave as that," the Texan challenged.

The Easterner smiled. "Did you ever hear of Paul Revere?" he asked.

"Revere? Revere?" the Texan pondered. "Isn't he the fellow who ran for help?"

Foreman (shaking his fist): "What's this I hear about you telling everybody you see that you saw a wart on my wife?"

Mechanic: "Now, see here. That's not true. I merely said it felt like a wart. That's how the rumor got started."

The one who thinks our jokes are poor,
Would straight-way change his views
Could he compare the jokes we print
With those we cannot use!

Father was sitting in the armchair one evening, when his little son came in and showed him a new penknife, which he said he had found in the street.

"Are you sure it was lost?" inquired the father.

"Of course, it was lost! I saw the man looking for it," replied the youngster.

As I grow older I find there are three things I have trouble remembering. 1, Faces; 2, Names; 3, ?? I can't remember what the third thing is!

A spinster who was the self-appointed supervisor of village morals accused a man of being a drunkard because she had seen his car parked outside a tavern. The accused man made no comment, but the same evening parked his car outside his accuser's door— and left it there all night.

A little girl was proudly showing her playmate her new home.

"This is my daddy's den," she said, "Does your daddy have a den?"

"No," was the answer, "he just growls all over the house."

When telling an alleged funny story, always make it as short as possible. If you build it up and stretch it out, you give your listener time to think of a worse one to tell you.

A friend reports that a few evenings ago, in a traffic snarl, one of the inevitable horn-tooters began blasting his horn. A man in a car alongside looked over and politely inquired: "What else did you get for Christmas?"

When Noah sailed the ocean blue,
He had his troubles, same as you.
For days and days he drove the ark
before he found a place to park.

"Teacher makes us raise a hand,"
Said little Donald Root;
"But Fido hasn't any hands,
So he has to raise a foot."

Identification

The surest way to tell a male sardine from a female sardine is to watch and see which can they come out of.

"Just one more chorus of 'Happy Birthday' and we'll all leave together!"

After The Fire Is Out!

Put a

HOMELITE PUMP

to Work

Why tie-up heavy, valuable equipment for overhauling a fire, when a small, compact, carryable Homelite will do all the pumping you want.

Usable anyplace, this lightweight gasoline engine driven pump will flush out flooded cellars at the rate of 15,000 gallons an hour. Yes, and even with water filled with solids, this self scouring, non-clogging pump will keep operating . . . without trouble . . . in any temperature, hot or cold. What's more you can use this same pump for filling booster tanks or feeding your pumper from lakes or streams.

Ask for a free demonstration . . . anytime, any place . . . see how this low cost handy Homelite can eliminate the need of using bigger, more costly equipment. Write today.

Manufacturers of Homelite
Carryable Pumps • Generators
Blowers • Chain Saws

PERFORMANCE · DEPENDABILITY · SERVICE

HOMELITE
CORPORATION
305 RIVERDALE AVENUE • PORT CHESTER, N. Y.

Canadian Distributors: Terry Machinery Co., Ltd., Toronto, Montreal, Vancouver, Ottawa.

10,000 WATTS A.C.

with half the weight! in half the space!

MODEL 10CW
10,000 watts A.C.
Gasoline-powered

the New ONAN "10 CW" Electric Plant

Check these advantages!

- ★ High capacity for big jobs.
- ★ Twin-cylinder, horizontally-opposed, air-cooled, alternate-firing engine.
- ★ Aluminum-alloy cylinder heads.
- ★ Extra-large, replaceable bearings.
- ★ Full-pressure lubrication, 6-quart oil capacity, oil filter.
- ★ Impulse-coupled, high-tension magneto ignition; radio suppressed.
- ★ Quiet, vacuum air cooling of generator and engine.
- ★ Excellent accessibility; snap-off housings.
- ★ Extremely quiet running.
- ★ High performance generators.
- ★ Completely equipped with controls and instruments.

Costs less than any other complete electric plant!

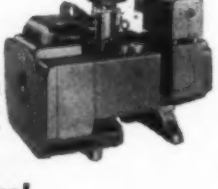
You can't match it anywhere in performance, equipment or value. The sensational new Onan 10CW gives you everything you've wanted in an electric plant plus exceptional mobility for a unit of its capacity.

Mounted on fire truck, emergency truck or trailer, this 10,000-watt gasoline-driven plant provides power for floodlighting large areas, for power tools and other equipment.

Models for standby use also available.

Take a good look at this new low-cost powerhouse! Offered also in 5,000-watt capacity.

Model 5CW
5,000 watts
Same advanced design as the 10CW with all its exclusive advantages. Built for heavy duty, economical operation.



Write for Detailed Specifications!

Onan ELECTRIC PLANTS

D. W. ONAN & SONS INC.

5724 University S.E. • Minneapolis 14, Minnesota

Among the Buffs

By Paul C. Ditzel

THE recent mention in this column that I was preparing an article on fire buffs for a national magazine brought forth a considerable number of letters from would-be magazine readers.

The magazine is Bluebook.

Exactly when the article will appear is not known at this column's deadline.

Thanks, however, for the interest and also for the flattering comments on other recent fire stories of mine which appeared in such magazines as Male, Men, and Stag. Two others are ready for and Stag. Two others are scheduled for early publication in this group.

Speaking of literary efforts, or attempts at same, comes now Joseph L. Hallett of Box 358, Norwell, Mass., to announce that his pilot issue of "Visiting Firemen," should be off the presses by the time this column hits *Fire Engineering*. Joe writes that he is forwarding a copy and I hope to have a review of it in a near future column.

The book, which sells for $1.50, is advance billed as a handbook for fire fighter-hobbyists and buffs. It contains 128 pages, 15 features, many of them illustrated.

Joe gives this rundown of the contents:

"Fire record forms; list of fire-hobbyists; fire-ham radio log; list of fire collections; box and fire service club list; swap and trade section; articles about old and modern departments; hand engines; steamers; model apparatus building; fire photography; firemanic collecting; and a fire photo contest."

It's pocket-size for your convenience, Joe adds.

"This deal is admittedly an experiment and I expect to lose money this this first edition," says Joe. "If it takes hold I think I have laid the groundwork for a profitable continuation in 1955. At any rate I have given the buffs and fire fighter-hobbyists something they have been asking for, for a long time."

Harold P. Mackey, secretary of the Box Fifty-Four Club, Fire Headquarters, Teaneck, N.J., sends along word that his group's canteen is just about complete. It has a propane burner for heating coffee and other hot drinks. The wagon also carries 12 gallons of water in insulated jugs.

"We have a stretcher, blankets, hand lights, extinguisher, 120 feet of heavy duty wire to plug into a house or store and a generator," says Mackey. "We also—when the occasion arises—make up fruit drinks, or pick up milk or chocolate drink from a nearby Sheffield Farm plant to service on the fire ground."

During 1953 the group had a total of 18 runs. They served 84 gallons of coffee, 600 cartons of milk and eight gallons of juices and bouillon.

"At present we are working out a faster method for alerting our club in the event we are needed," says Mackey.

The Dumont Physicians Exchange will serve us on a 24-hour basis, charging 10 cents per call including the call that will be made by the fire alarm bureau of the Teaneck Fire Department, who by the way will receive all the calls for our rig and relay the information to the physicians exchange."

Tom S. Jewett, Jr., 6442 McGee St., Kansas City 13, Mo., sends along his

latest report on his book collection. He now has 82 volumes — "and I mean books, not in training pamphlets"—on firemania. He says the book collecting business is slow. Last year at this time he was averaging two books a month for his collection and this year he's only picked up one. He says he'd like to hear from any buffs with books to trade or sell.

Jewett also sends along some statistics on the Kansas City Fire Department's operations for 1953. It was the city's second largest in history, in terms of fire loss and second only to 1951, the year of the great flood. The total loss for 1953 was $2,706,386. Number of alarms totalled 6,565, considerably under the 7,306 of the previous year. The greatest loss came from an explosion at 3513-19 Broadway, Kansas City, where $182,500 damage resulted. Another large loss fire was at a Safeway Food store.

Kenneth Tindall of 109 Errickson Ave., Moorestown, N.J., says he got a tanker load of information on California tankers after he appealed through this column for information on them.

"I think some of the eastern fire departments should take a good long look at the tanker setup as it seems to be a fireman's dream. Some towns around here are going in for them more and more with high pressure fog setups," says Buff Tindall.

The 1954 president of Los Angeles' Box 15 Club is Glen Alton. Other officers include: Fred Allen, vice president; and Clarence Ramsey, secretary. Glen mentions that his club's project for the year is to acquaint the public with the need for yielding the right of way to emergency equipment.

"Los Angeles is averaging 10 accidents per months with more in the surrounding area," Glen observes. A recent accident claimed the life of Cecil Gehr, chief engineer of the Los Angeles County Fire Department who was killed while responding to a brush fire.

As a footnote, Glen adds that Box 15 members Smokey Bass, Dick Lindberg and George Fisher recently returned from a week's buffing in San Francisco.

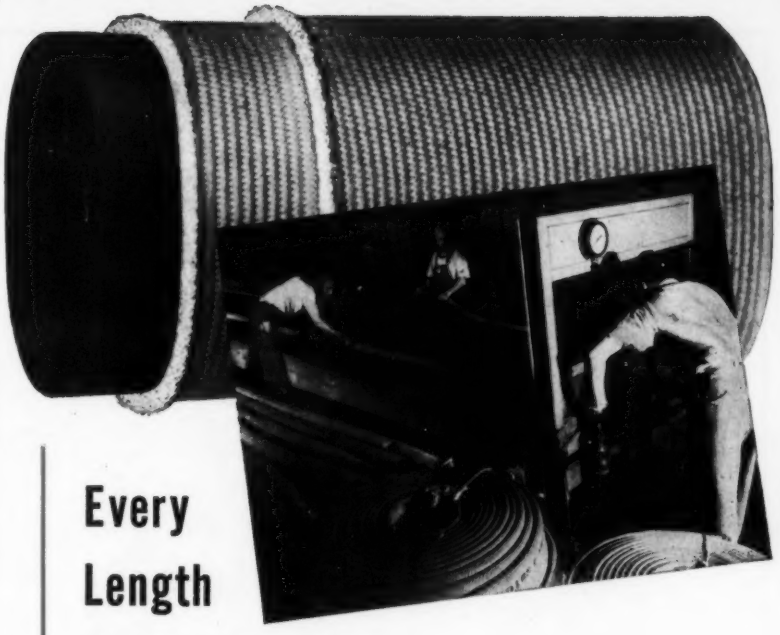
In again closing this month's edition, I'll add the usual reminder that the welcome mat is always out for personal anecdotes and other incidents which happened to you as a buff or to your club or a firefan you know. Send them along to me at 419 Napoleon St., Playa del Rey, Calif.

Catastrophe Toll Up

Catastrophes, accidents killing five or more persons, took about 1,800 lives in this country in 1953, a higher toll than in any year since 1947, according to the Metropolitan Life Insurance Company.

Tornadoes proved a major factor in the life loss, 13 of the big winds killing more than 450 persons. Fire played some part in many of these tornadoes.

Of the eight other disasters in 1953 which claimed more than 25 lives, fire played a grim part. A nursing home in Largo, Fla., burned, leaving 33 dead; explosion and fire on an aircraft carrier in Boston, Mass., took 37 more; another explosion and fire, this time in a Chicago factory, killed 35 others. Airplane crashes, involving fire swelled the toll: 46 dead in Mobile, Ala.; 40 dead on Utah-Idaho, border; 44 dead at Pensacola, Fla., and 35 killed near Oakland, Calif.



Every Length Factory-Tested for Dependable Fire-Fighting

Quaker

DACRON FIRE HOSE

You're sure of top performance, wear and economy from this exceptional hose. Every length undergoes rigorous hydrostatic pressure tests before it leaves the factory . . . tests far more gruelling than the most severe use you can give it in action. Lightness and flexibility are assured by twin jackets of cotton warp thread with super-strong Dacron filler. Resists heat, chemicals, water absorption and abrasion. Requires less storage space, too. Available in 600 lb. test Delaware brand and 400 lb. test Bond brand. For extra safety and service, use Dacron hose—another Quaker quality product.

Write for free folder and name of nearest distributor.

Water and Chemical Fire Hose for Every Municipal and Industrial Need.

QUAKER RUBBER CORPORATION
DIVISION OF H. K. PORTER COMPANY, INC.
OF PITTSBURGH
PHILADELPHIA 24, PA.
Branches in Principal Cities

Meet us at Eastern Chiefs Convention in Elmira, N.Y., May 24, 25, 26, 1954

12 reasons why Scott AIR-PAK is your best breathing equipment buy!

1. Ready for use in less than one minute, just turn on the valve and it's ready to go.
2. Clear visibility, cool air prevents fogging.
3. Simple to use. No practice or complicated training. Anyone can use the Air-Pak with complete confidence.
4. Fresh, cool AIR — not oxygen, for 100% protection in all breathing hazards, even explosive petroleum vapors.
5. Free and easy breathing under all conditions. No breathing restraint even during extreme exertion.
6. Triple safe regulator design proven by hundreds of thousands of hours service.
7. Positive, constant check of available air supply with dependable gage. No timer, no guesswork.
8. Full-vision face mask with diaphragm exhalation valve permits conversation.
9. The AIR-PAK is all-purpose equipment, not just rescue apparatus.
10. Economical. Operates for as little as 50c per hour. There is no waste — air that is not used may be saved for next time.
11. The AIR-PAK is completely independent of surroundings — safe in any atmosphere, in any concentration. Can even be used under water!
12. Proven. Thousands in use by business, industry and the fire service.

SINCE 1932 Scott FOR SAFETY-FOR SERVICE

WRITE TODAY FOR COMPLETE INFORMATION!

SAFETY EQUIPMENT DIVISION

SCOTT AVIATION CORP.

215 ERIE STREET LANCASTER, N. Y.

Canada: Safety Supply Co., Toronto — Branches in principal cities
Export: Southern Oxygen Co., 15 West 57th Street, New York 19, New York

World Wide Fire News

By Roi B. Woolley

Famous Scottish Lighthouse Destroyed

For the first time in 110 years the famous Skerryvore Light, one of the largest in the world, guarding the Atlantic approaches to the rock-strewn western coast of Scotland, was in darkness.

The lighthouse, visible for twenty miles, went up in a roar of flames, bursting rockets and exploding signal shells on March 18th while its three keepers crouched on a narrow ledge, praying that the 158-foot tower would not collapse on them.

The men were rescued, after a twelve-hour ordeal, by a lightship sent to investigate when it was noted that the famous light was in darkness.

The keepers, picked up uninjured on a sea-swept rock, said they did not know how the fire started. They fought the flames with extinguishers, but it quickly got out of control, and they were forced to flee.

* * *

U. S. Blamed for Texas City Disaster

The House Judiciary Committee in Washington, said on March 23rd last, that the federal government was to blame for the catastrophic ship explosion in Texas City in 1947 in which at least 370 persons were killed and 3,500 injured.

Property damage estimates range from $60 million to $100 million. The committee recommended Congress enact legislation to authorize the Army to pay damage claims for deaths, injuries and property damage resulting from the explosions. It would set a $10,000 limit on each death claim but no limit on injuries or property loss.

The committee blamed Army negligence for the explosions that ripped two ships at Texas City. The ships were loaded with ammonium nitrate fertilizer. It is said the Army treated the fertilizer as though it were an every-day product of commerce and did not label it as dangerous.

* * *

Dynamite Truck Blast Kills Four

Four men were killed when their dynamite-laden truck exploded near Santa Rita, N.M., late last March, with a roar heard 15 miles away. A Fifth man was injured critically in the blast at the Kennecott-Copper Corporation's huge open-pit mine.

The incident was called one of the worst accidents in the history of the mine, the second largest open-pit operation in the country. The cause of the blast was not immediately determined but police and mine officials are investigating.

* * *

Courage and Discipline in Fire at Sea

This story can best be told in the words of an editorial in the Ottawa, Ont., Journal, of March 30, 1954.

"A crowded ship ablaze at sea is a dreadful thing to contemplate, and some of the most tragic of catastrophes in the long history of navigation had fire as the cause.

"There was an explosion in the engine room of the British troop ship 'Empire Windrush' on Sunday as she steamed through the Mediterranean along the

The Book You Have Been Waiting For—

CONTENTS

Choosing Rescue Personnel
Fire Service First Aid
Hemorrhage and Serious Bleeding
Stoppage of Breathing
Serious Burns
The Circulatory System
The Respiratory System
Bone Structure
Respiration
Shock
Artificial Respiration
Manual Artificial Respiration
Mechanical Artificial Respiration
Poisons, Treatment of Cases
Electric Shock
Asphyxial Cases
Accidents
Emergency Maternal Delivery
General Fire Service First Aid Rules
Fire Service Rescue
Demolition and Shoring
Evacuation from Institutions
Stand by Response
Water Rescue
Mountain Rescue
Forest Fires
Electrical Hazards
Gas Hazards
Refrigeration
Rescue Equipment
Breathing Apparatus
Resuscitator - Inhalator - Aspirator
Administration of Oxygen
First Aid Kits
The Burn Kit
The Blanket Case
The Stretcher
Ropes and Harnesses
The Minor Demolition Group
The Cave-In Group
Personal Protection

In response to numerous requests, we are happy to present in this handy book form the outstanding series of articles by Joe Mahaffey of the Los Angeles County Fire Department, which appeared in FIRE ENGINEERING during 1952 and 1953 under the heading of "Practical Fire Service Rescue."

Designed to serve as instructional material for firemen, particularly those attached to rescue squads, it is a gold-mine of practical, up-to-date, "how-to-do-it" information covering all phases of fire service activities relating to the saving of human life—first aid, manual and mechanical administration of artificial respiration, transportation of injured, use and care of rescue equipment, and rescue operations in general.

Fire Chiefs who realize the importance of developing their rescue work to top efficiency, as most fire departments are doing these days, would do well to place a copy of this book in the hands of each of their men concerned with this type of work.

$1.25

per copy postpaid

20% discount (or $1 per copy) on orders of 25 or more.

CASE-SHEPPERD-MANN PUB. CORP.
24 W. 40th St., New York 18, N. Y.

Please send ..... copies of FIRE SERVICE RESCUE MANUAL at $1.25 per copy, postpaid.
($1.00 per copy on orders of 25 or more)
Check, M.O. or city form enclosed. (No C.O.D.s.)

Name .....

Address .....

City ....

coast of North Africa. Fire followed the explosion and in a matter of minutes the blaze was raging beyond control.

"Four sailors were killed in the explosion; there were left on board 1,424 living persons. They included 277 women and children, 17 soldiers in the ship's hospital, hundreds of servicemen on their way home after service in Asia, and the crew of the vessel, when the captain gave the order to abandon ship.

"Conditions, fortunately, were favorable. The water was calm and other ships in the vicinity responded to the radio call for help.

"Above all, there was no panic, and the traditional discipline of a British ship was maintained. The women and children were first in the lifeboats, the men followed in orderly way, the small boats were picked up by the rescue craft, and the only lives lost were those of the four seamen.

"It is a gallant story of courage and presence of mind."

* * *

Hot Off the News Ticker

The Portuguese trawler Acor ran aground and exploded at Caboraso, 40 miles west of Lisbon, killing at least 15 crew members. Only two seamen were rescued. One was reported missing. . . . 500 persons were made homeless the night of April 3rd last when fire swept through a shantytown quarter of Casablanca, Morocco. . . . Five men died and four others were critically injured April 4th in an explosion and fire that destroyed the Commercial Hotel at Cunnamulla, western Queensland, Australia. . . . Two explosions in February, shattered windows of the Albert Trostel packing plant, Lake Geneva, Wis. where 90 employees have been on strike since Jan. 29th, and damaged the home of a no-striking employee. . . . Fire on the night of March 22 last, destroyed almost one city block of Taegu, Korea, and burned American-occupied buildings valued at $100,000. . . . Fire of undetermined origin destroyed the British information service building in Jakara, Indonesia on March 30th. Firefighters prevented flames from spreading to the chancery and other buildings that make up the British Embassy compound. Cause??... A fire-bottle "bomb" stampeded a motion picture audience of 300 persons and caused injuries to six at Matsuyama, 500 miles southwest of Tokyo, in March. The crowd fought to get through the theatre doors and windows as bursts of smoke billowed up from the floor near the screen. . . . A gas well fire raged for 16½ days in the Legal, Alberta oil district of Canada, 33 miles north of Edmonton, was extinguished by flooding it with water. . . . A blaze aboard the battleship Vanguard, flagship of Britain's home fleet in Portsmouth Dockyard, on April 3rd, was extinguished with unpublished loss. . . . In Wilhelmshaven, Germany a 45-year-old businessman emptied a 5-gallon can of gasoline at the entrance of the local revenue collector on March 7th last, then set it afire and calmly drove off. When arrested an hour later, he said he thought his last income tax payment was too high.

* * *

More "Iron Curtain Stuff" From Abroad

Reports from the Austro-Hungarian border region, dated April 17th, said a third of the Hungarian border town of Windischdorf burned out on that date, because Hungarian border guards would not let the Austrian fire fighters cross into Hungary.

The reports, which lacked official confirmation, said Hungarian police chased or beat with rifle butts Hungarian citizens who begged to allow the fire trucks to cross the border. The town reportedly has no water.

Early on the 17th, flames and heavy smoke could be seen from Austrian villages in the area and Austrian fire brigades headed for the barbed wire border fence.

It is said high winds fanned the flames and burned out 30 of the Windischdorf total of 90 houses. According to reports, guards finally permitted villagers to cut a path through the wire fence and lay water hoses over the border into the nearby Raab River, on the Austrian side. Water was then pumped through the hose to feed the few Hungarian fire engines in Windischdorf.

Teen-Age Training Pays Dividends

The nation's teen-agers have not been receiving the kindest of press reports, these days. In fact, more is heard about their starting fires than about their cooperating to extinguish them, and prevent them.

Fire started by ignition of gasoline vapors from a powered machine being used to steam paper off the wall, quickly involved the living room of the dwelling of Mrs. Robert Loehrlein, 4821 Stringtown Rd., Evansville, Ind., recently. Mrs. Loehrlein had left the men operating

OREN

FIRE APPARATUS

"COMMERCIALS"

Oren policy is to make NO differential between its Commercial-Chassis mounted Apparatus and its Custom-Built Apparatus; you get the same:

- PUMP AND EQUIPMENT
- DESIGN AND WORKMANSHIP
- MATERIAL AND FINISH

If your next apparatus is to be a "Commercial" Write for Details

OREN ROANOKE CORP.

ROANOKE 16, VIRGINIA

the machine, to telephone a seed company. The woman at the other end of the phone heard her shout: "My house is on fire! Call the fire department!"

Mrs. Loehrlein ran from the house and the fire department was duly notified of the fire. Meanwhile, the flames were sighted at the Stringtown school directly across the street and, led by eighth-grader Wayne Baldridge, the Stringtown School Safety Patrol went into action.

Adults who stood helplessly watching saw boys, none more than five feet tall, dash past them carrying hand extinguishers from the school walls. Leading the fire fighters were George Schoonmaker and Barry Hoppen. Other youngsters swiftly set up road blocks and directed traffic.

By the time the firemen and sheriff deputies arrived at the scene, the fire was under control and traffic was moving smoothly. Fire fighters quickly finished the job and cleaned up, while the boys (20 or more, "firemen" and "patrolmen"), went back to school.

None of the boys were injured although two men operating the paper-remover were burned, one seriously, and taken to the hospital.

The safety patrol was trained by Deputy Sheriff Alvin Rogers. The Evansville Funkhouser Post No. 8 of the American Legion, with the aid of the Evansville Courier, a fire-concious newspaper, gave publicity to the teen-ager's exploits.

Annual Reports Received

Radio Proves Profitable for Detroit

The Annual Report of the Detroit Fire Department (Chief Edward J. Blohm) for the year 1953, stresses the importance of its two-way radio communications system which "was utilized to the greatest extent possible."

The use of the 130 mobile sets, the report states, "continued to provide greater mobility, efficiency and versatility. Considerable savings were again effected through the elimination of unnecessary mileage made possible by constant contact with all vehicles."

The report also shows the progress made in Civil Defense-Fire Defense. Fire prevention is credited with helping reduce fire losses $2,774,227 from the previous year.

The Fire Division responded to 19,014 alarms of fire during 1953, of which 11,609 were actual fires.

The 48-page Report, which is handsomely printed, is packed with vital statistics covering the Fire Division's progressive operation.

* * *

Columbus, Ohio, Losses Up

According to the well-edited and printed, plastic-bound 93rd Annual Report of the Columbus, Ohio, Fire Department (Chief Walter G. Strickfaden), fire loss for the year 1953 amounted to $672,059.55, or 1.518 per capita. There were 16,006 alarms, of which 5,744 were for actual fires. The Department put in 12,401 hours of work, traveled 87,170.1 miles, and operates a total of 69 vehicles.

* * *

Salt Lake City Has Productive Year

Fire losses dropped $118,922 in 1953 from the year previous, in Salt Lake City, Utah, while the loss of life was halved—six in 1952, three last year. Of

"Choice for Quality the World Over"

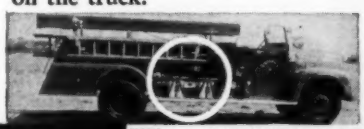
THERE'S NO match TO THIS—

INDIAN FIRE PUMPS

ARE BEYOND COMPARE—

We don't fish for compliments, but there must be a reason why so many users of **INDIAN FIRE PUMPS** write us they could never get along without them.

For grass and brush fires, fires in upholstered furniture and mattresses, fires inside buildings, fires in trash containers and on roofs **INDIANS** have no equal. **INDIANS** are easily cleaned — attractive on the truck.



New truck of Half Moon Bay built by Coast Apparatus Inc., Concord, Cal. (Note **INDIAN FIRE PUMPS** mounted on running board.)

A FIRE CHIEF WRITES:

"We use **INDIAN FIRE PUMPS** for grass fires and cleaning up small fires after a large fire. We also leave them on the scene of a fire so if a small fire starts, the owner can put it out. **INDIANS** are handier and always ready. The valves never stick. One **INDIAN** can do more than six men with wet sacks on a grass fire."

Chief M. F. Brookshin, Hamburg, Iowa Fire Dept.

All Seams are Electric Welded —No Leakage

SEND FOR CATALOG

D. B. SMITH & CO. 406 MAIN ST. UTICA 2, N.Y.

PACIFIC COAST BRANCHES:

Hercules Equipment & Rubber Company, Inc. 435 Brannan Street San Francisco 7, California

Fred E. Barnett Company 2005 S. E. 8th Ave. Portland, Oregon

Mill & Mine Supply, Inc. 2700 Fourth Avenue South Seattle, Washington

Roy G. Davis Company 1355 So. Flower Street Los Angeles 15, Calif.

Fred E. Barnett Company 600 Spring Street Klamath Falls, Oregon

L. M. Curtis & Sons 426 West Third Street South Salt Lake City, Utah

CANADIAN AGENTS:

Fleck Bros. Limited 110 Alexander Street Vancouver, B. C., Canada

C. E. Hickey & Sons, Ltd Hamilton, Canada

the 24 deaths from fire in the city during the last six years, ten it is disclosed, were attributed to smoking in bed. The Department, in command of J. K. Piercy, responded to 1,834 alarms for actual fires.

* * *

Losses and Alarms Lower in Everett, Wash.

In his 1953 Annual Report of the Everett, Wash., Fire Department, Fire Chief F. F. Schroeder records that fire alarms have dropped to the lowest point in nine years. The total fire loss was $67,894.10, a lower per-capita fire loss than 1952.

The Report stresses the brand of service given citizens of the muncipality and recommends improvements, including replacement of worn-out equipment.

Chief Schroeder observes that all his trucks are radio equipped and says: "After a company is through at a fire, if they have their booster tank full and all their hose ready for the next fire they report in service by radio. During 1953 our companies were in service 63 hours and 31 minutes more because of radio."

During the year the department traveled 1933.6 miles in response to alarms.

* * *

"Business" Up in Cedar Rapids, Iowa

There were 993 fire alarms registered by the Cedar Rapids, Ia., Fire Department (Chief Jesse G. Hunter) in 1953, compared with 942 in 1952. Total fire loss for the year 1953 was $161,735.99.

* * *

Alarms and Losses Up in Akron

An increase of 16.5 per cent in the number of fire alarms, and of $388,885 in property loss due to fire is reported in the Annual Report of the Akron, Ohio, Fire Department (Chief F. C. Vernotzy). It is disclosed that as of 1953 the fire department strength consists of 12 engine, 4 ladder companies, and 257 personnel.

During the year, "walkie talkies" were added to the fire force and a county network of communications launched. The department traveled 52,627 miles in responding to alarms and worked 4,529¼ hours.

* * *

Lima, Ohio, Loss Above Average

The 1953 Annual Report of the Lima, Ohio, Fire Department (Fire Chief Walter L. Hydaker) shows fire losses of $228,058 for the year 1953 compared with the five-year-average of $153,918. During the year the department answered 683 alarms, 74 more than in 1952. Of the 29 false alarms received, 7 were by telephone, 17 by box, 3 were still alarms and 2 were sprinkler alarms. The department spent 368 hours, 32 minutes on alarms and traveled 3,659 miles.

* * *

Honolulu Reports Decreased Loss

Fire loss in the City of Honolulu in 1953 amounted to $463,984.76, a decrease of $367,116.59. Of the 1,706 fire alarms received in 1953, a drop of 122 from 1952, 242 were false, of which 60 were from master boxes, 135 from regular street boxes and 47 by telephone.

Fire Chief H. A. Smith recommends four new fire stations and four new aerial ladders, among other improvements.

SENSIBLE

FOR ALL YOUR HOSE CONNECTIONS

improved

SENSIBLE LUG COUPLINGS

(ROCKER LUG TYPE)

meets

GOVERNMENT SPECIFICATIONS

After 61 years' experience in the fire-fighting equipment field, Powhatan takes justifiable pride in the Improved Sensible Lug Coupling. Our full 61 years of know-how are represented in this modern and dependable piece of equipment. . . . Specify "Sensible."

POWHATAN BRASS and IRON WORKS

RANSON, WEST VIRGINIA

Phones 93 & 94 Charles Town, West Virginia

Established 1892

Obituaries

Fire Marshall Richard Drivon Dead

Fire Marshal Richard Drivon, 47, of Redwood City, Calif., died of a heart attack in line of duty on April 9, while testifying in Judge Murray Draper's Superior Court in Redwood City in an arson case.

Fire Marshal Richard Drivon

He was being cross-examined by the defense counsel when he put his hand to his face as if pondering an answer. Suddenly he collapsed. The Fire Department Resuscitator Squad was called but its efforts were in vain. Marshal Drivon was taken to Sequoia Hospital. He was pronounced dead on arrival there.

Marshal Drivon had spent practically

all of his adult life in the Redwood City fire service. He was appointed a Volunteer Fireman in 1931. In 1935 he was named Engineer. Advancement came again in 1937 when he was designated 2nd Assistant Chief. In 1946 Redwood City had its first opening for a full time Fire Inspector—he was assigned here on a temporary basis. Then in March of 1948 he was made a Probationary Fire Inspector. Meritorious service warranted his permanent appointment as Fire Inspector in September 1948.

His untiring efforts, integrity and concern for the safety of his fellow man are exemplified in his records and by the faithful conduct of his office.

He was a member of the International Association of Fire Chiefs, California State Firemens Association and Fire Marshals Division of Peninsula Fire Chiefs Association.

Hawkins, Ex-Haverhill Chief, Dies

William H. Hawkins, 83, who served as Chief of the Haverhill, Mass., Fire Department for ten years prior to his retirement in 1933, died on Feb. 11th, 1954.

He had been a member of the Department for 44 years and was a past-president of the Massachusetts State Firemen's Association. He served two terms as a commissioner of the State Firemen's Relief Association.

Wesley King Dead

H. Wesley King, 50, superintendent of the Philadelphia Fire Insurance Patrol died March 20th, 1954, at Rolling Hill Medical Center, Cheltenham Twp., Pa.

He was named head of the Patrol in 1949. Prior to that he had been a member of the organization for 28 years.

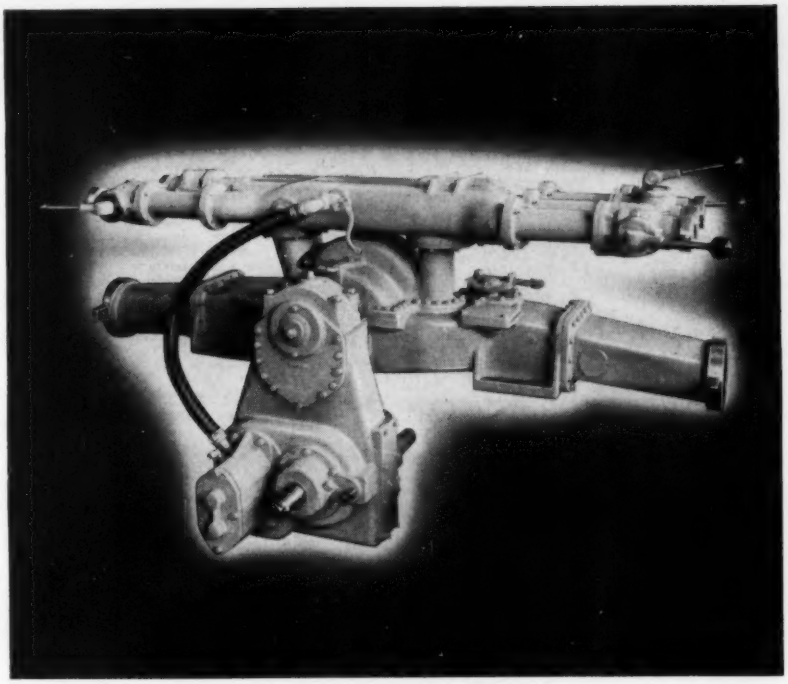
E. H. SPRANGERS

What's Burning

THE following list includes fires of $10,000 loss and over in the United States and Canada for the month of April, 1954.

Month Ending April 30, 1954

Gadsden, Ala.—Piggly-Wiggly Grocery Co. destroyed.
Greenville, Ala.—Greenville plant of Camelia City Dairies, destroyed. Short circuit.
Beebe, Ark.—Building housing Dodd's Implement Co. destroyed.
Dierks, Ark.—Dierks Lumber Co. plant heavily damaged.
Mena, Ark.—Badger Manufacturing Co.'s plant in center of business district, destroyed.
Winslow, Ark.—Lloyd's shoe store, Masonic Hall, motion picture theatre, warehouse and two buildings owned by Lloyd Parks, Shaffer's grocery and sawmill, 30 miles south, destroyed.
Anaheim, Cal.—Hille Engineering Co. plant, destroyed.
Calexico, Cal.—Five buildings in central business district, destroyed.
Del Paso Heights, Cal.—Del Paso Market and Taylor Lumber Yard destroyed.
Little Valley, Cal.—Indian Head Lumber Co. mill destroyed.
Laguna Beach, Cal.—Victor Hugo Inn damaged.
Lodi, Cal. — Sprouse-Reitz Company, 5-10-15c store, damaged.
Los Angeles, Cal.—Golden Wool Co. plant destroyed.
Los Angeles, Cal.—Superior Honey Co. plant, destroyed.
San Francisco, Cal.—Willig Freight Lines, damaged. Careless smoking.
Santa Ynez, Cal.—Dwelling on Oakridge Ranch, destroyed. Flash fire.
Wilmington, Dela.—Building of Pyrites Co., Inc., destroyed.



Waterous announces new 1500 GPM centrifugal pump

● Take a look at the new 1500 GPM WATEROUS CD-4 . . . a big, high-capacity pump that meets full Class A requirements by delivering its full rated capacity *with a single 6 inch suction hose from a 10 foot lift.*

The CD-4 isn't merely a smaller pump which has been upgraded to larger capacity. It is an *entirely new pump,* engineered to deliver the full capacity for which it is rated.

Before any CD-4 leaves the factory, it passes a rigorous test in which it is operated in excess of National Board of Fire Underwriters' requirements.

WATEROUS offers this increased capacity without sacrificing any of the design features for which WATEROUS pumps are noted. These include the horizontally split two-piece casing, outboard oil-lubricated bearings, and outboard split gland stuffing boxes. The CD-4 is easy to operate and easy to maintain.

With its inherently dependable design, high quality accessories and rigid inspection, the CD-4 may be expected to maintain its high capacity for many years.

With the new CD-4, WATEROUS offers a complete line of fire pumps with capacities ranging from 100 to 2000 GPM. If your Department is now in the market for a new pumper, it will pay you to investigate these pumps. "Preferred Fire Pump Specifications" has been specially prepared to help you. For your free copy, write WATEROUS Company, 40 East Fillmore Avenue, St. Paul 1, Minnesota.

MEMBER FAM FIRE APPARATUS MANUFACTURERS

Waterous
DEPENDABLE PUMPS
SINCE 1886

Orlando, Fla.—Fraternal Building in downtown, housing USO club, nurses' uniform shop and lodge rooms of Odd Fellows, Knights of Pythias and Red Men, damaged.
Chicago, Ill.—Buildings occupied by Red Robin clothing shop and Maling Brothers Shoe Store, damaged.
Chicago Heights, Ill.—S. S. Kresge Co. store, destroyed. Rubbish fire.
Carrollton, Ind. — Grain elevator of Hancock County Farm Bureau, destroyed.
Kendallville, Ind.—Saw mill and two storage sheds of Holmes and Co., Inc., destroyed.
Paoli, Ind.—Furniture manufacturing plant of Cornwall Co. destroyed. Spontaneous ignition.
Terre Haute, Ind.—Levinson's Women's Apparel store, destroyed; Paige's Music Store, Wiand's Jewelry store and Joseph's Clothing Store, damaged.
Fayette, Ia.—Building housing Physics department at Upper Iowa University, destroyed.
Manchester, Ia.—Building housing Hygrade Food Products Co. plant, destroyed.
Monono, Ia.—Building housing Clover Farm Store, cafe and tavern owned by Al Kadle and law office of George Heins and several apartments, damaged.
Barbourville, Ky.—Viall Lumber Co. sawmill and building, destroyed.
Lawrenceburg, Ky.—White Brothers Garage; four offices, occupied by Dr. W. C. Stauffer, Production Marketing Administration, Farm Bureau and Soil Conservation Service, destroyed.
Nortonville, Ky.—Outlaw Locker plant destroyed.
Paris, Ky.—Building on Main street, housing drug store with doctors' office upstairs, damaged. Short circuit in wiring.
Boston, Mass.—Steven's Television Co. damaged.
Canton, Mass.—Hangar of Canton Airport and electronics research equipment of Pickard & Burns, Inc., and U. S. Government.
Easton, Mass.—Two barns and storehouse of Pius X Seminary of Stonehill College, destroyed. Boys with matches.
Gloucester, Mass.—Magnolia Casino, Norman's Woe Reef, destroyed.
Leominster, Mass. — Factory building housing Castle Novelty Co., a plastics firm; Liberty Milling Co., wood products manufacturers; Tate Button Co. and Tate Press, and five nearby dwellings, destroyed.

Shuredry Green-Bak Covers will pass the test specified by the National Board of Fire Underwriters. They also carry the approved symbol of the Associated Factory Mutual Fire Insurance Companies.

Damage from water and smoke is cut down when SHUREDRY Green-Bak Salvage Covers are on the job. Only the finest quality, treated cotton duck, which is pressure impregnated by the exclusive Fulton dry-treatment, is used in SHUREDRY Covers. All seams are waterproof, and SHUREDRY Covers are light — pliable and easy-to-handle. For top dependability — specify SHUREDRY when ordering salvage covers from your Fire Equipment Dealers.

Fulton BAG & COTTON MILLS

ATLANTA • ST. LOUIS • NEW ORLEANS • SAVANNAH • DALLAS • LOS ANGELES • DENVER • MINNEAPOLIS • KANSAS CITY, KANS. • N. Y. CITY • SAN FRANCISCO • PHOENIX • WINTER HAVEN, FLA.

Bessemer, Mich.—Sawmill of Steiger Lumber Co. destroyed.
Detroit, Mich.—Zenith Furniture Co. store damaged.
Fenton, Mich.—Lumber yard and grain elevator in downtown district, destroyed.
Saugatuck, Mich.—Westminster Lodge at Camp Gray, owned by extension board of Presbyterian Church of Chicago, destroyed.
Tecumseh, Mich.—DesErmia Furniture Co. destroyed.
Willow Run, Mich.—Willow Run Airport destroyed.
St. Paul, Minn.—Building of Hart Mfg. Co. destroyed.
St. Paul, Minn.—Sta-Vis Oil Co. damaged.
Staples, Minn.—Staples Produce Co. damaged.
Higginsville, Mo.—Ziems-Grother Motor Co. destroyed.
Kansas City, Mo.—National Wholesalers Co. warehouse and office building, damaged.
Rogersville, Mo.—Four buildings including Woolsey market destroyed.
Wentzville, Mo. — Jack Ray Chrysler-Plymouth and GMC truck agency, destroyed.
Missoula, Mont.—Larson body and fender shop, destroyed. Oil explosion.
Littleton, N. H.—High School destroyed.
Englewood, N. J. — Lion Cleaners damaged. Explosion.
Englewood, N. J.—Lightning Auto Store, Northern Valley Clothing Manufacturers, Seidel Paint & Varnish Store and Englewood Storage Warehouse, damaged.
Flemington, N. J. — Barn on William Henkel farm, three miles south, destroyed.
Neptune, N. J.—Monmouth Cold Storage plant destroyed. Sparks from welder's torch.
North Bergen, N. J.—Trucking terminal at 1700 Union Turnpike, damaged.
Paterson, N. J.—Building occupied by Jack's Furniture Store, spread to Passaic-Bergen Dairy Products store and Guaranteed Used Stoves Store and Stove Market, damaged.
Whitehouse, N. J.—Hangars of Seberg-Hunterdon Airport, damaged.
Albuquerque, N. M.—L. R. Branch dairy farm destroyed.
Astoria, N. Y.—Dawn Woodworking Co. damaged.
Clayton, N. Y.—Warehouse and coal loading elevator of Consaul-Hill Co., Inc., on the bank of St. Lawrence River, a short distance west of New York Central Depot, destroyed.
Earlville, N. Y. — Grange League Federation grain elevator, destroyed.
Johnstown, N. Y.—Six buildings of the Filmer Leather Co., destroyed. Defective wiring.
Maspeth, N. Y.—Warehouse at 58-86 56th Street, destroyed.
Nyack, N. Y. — Old Central Nyack Grammar School destroyed. Overheated furnace.
West Carthage, N. Y. — Original section of school destroyed.
Woodmere, N. Y.—Nine stores, including Durbow's Bakery, destroyed.
Dunn, N. C.—Planters warehouse and vacant building and 3,000 bales of cotton owned by Erwin Mills, destroyed. Lightning.
Garrison, N. C.—McGray Implement Co. building destroyed.
Hankinson, N. D.—Salzer Lumber Co. and Cargill elevator destroyed; Hankinson News, a weekly newspaper, and Masonic Hall, damaged.
Tower City, N. D.—Rice Lumber and Implement Co. destroyed.
Akron, Ohio—Building occupied by Union Chemical & Supply Co. and Go-Jo, Inc., chemical manufacturers; Erie Restaurant, Pepp Radio Co. and Mayflower Garage Repair Shop, damaged.
Akron, Ohio—Lindy's Restaurant, former gambling resort on Portage Lakes Drive, destroyed. Explosion.
Ashtabula, Ohio — Jack Mintz Restaurant and Lounge, destroyed; Ashtabula Business College and offices of John R. Devney real estate firm, damaged.
Carey, Ohio—Main building of Carey Handle and Lumber Co., destroyed.
Centerville, Ohio — Farm home of Hames M. Hewitt, three miles east, known as "Century House Farm," a showplace, destroyed.
Cleveland, Ohio—Casa Blanca Cocktail Lounge, adjoining Shaker Theatre and Injection Molders Supply Co., damaged. Grease on kitchen hood ignited.
Cleveland, Ohio—Eagle Wholesale Grocery Co. destroyed.
Cleveland, Ohio—Dougherty Lumber Co. yard damaged.
Findlay, Ohio—Terminal of Fluid Transport, Inc., on the outskirts, damaged.
Fremont, Ohio—Plant of Berlekamp Sign Co. destroyed.
Ithaca, Ohio — Evangelical United Brethren Church destroyed. An Illinois Air National Guard plane dropped a wing tank on church.
Piqua, Ohio—Summer home owned by Ted Hardenbrook at Swift Run Lake, north, destroyed. Oil furnace explosion.
Pleasant Hill, Ohio—Farmers Exchange grain elevator destroyed. Spontaneous ignition.
Wapakoneta, Ohio—Plant of Standard Corp., makers of plastic products, destroyed. Spark from cutting torch dropped into paint booth.

Blackwell, Okla.—Two brick business buildings including the Security Bank Building, destroyed. Also included were an auto store, law and insurance offices and a Western Association baseball team headquarters.
Colbert, Okla.—First National Bank, theatre and grocery owned by B. M. Leecraft, IOOF and Masonic Halls, feed store and variety store, in business district, destroyed.
Oklahoma City, Okla.—Bouldin Fruit Co. damaged. Explosion in refrigeration department.
Oklahoma City, Okla. — Supply warehouse on Altus Air Force Base, damaged.
Canyon City, Ore.—Grant County Courthouse damaged.
Eugene, Ore.—Del Rey Cafe and adjoining shops destroyed. Cigarette.
Eugene, Ore.—Dayton Thompson fishing lodge destroyed. Arson.
Maupin, Ore.—Maupin High School destroyed.
Newport, Ore.—Yaquina Radio Station transmitter, studio building, destroyed.
Portland, Ore.—Multnomah Theatre destroyed. Cigarette.
Salem, Ore.—Cupboard Drive in cafe of A. B. Pederson, destroyed.
Tillamook, Ore.—Coast Auto Parts, Coast Upholstery Shop, Tillamook County office and warehouse, destroyed.
McDonald, Pa.—United Presbyterian Church destroyed.
Sharon, Pa. — Johnson-Sizer Contracting Co. yards, damaged.
Wilkes Barre, Pa.—Building occupied by Standard Equipment Co. and Walter C. Williams Co., damaged.
Salem, S. C.—Salem Lumber & Manufacturing Co. destroyed.
Summerton, S. C. — Store and warehouse of C. N. Sprott and Co. and Roy Setzler's television store, destroyed; adjoining Levine dry goods and ready-to-wear store, damaged.
Ware Shoals, S. C.—Moore Electric Shop, Brown Furniture Store, Economy Auto Supply Co., barber shop, Dodson Grocery Store, Silver Leaf Gift Shop, Ware Shoals Finance Co., Julia's beauty shop, Cooper Fabric Store and warehouse of Western Auto Associates Stores, destroyed.
Memphis, Tenn.—Old Germania Hall Building Housing dance floor, club rooms and apartment, Brunner Printing Co., Mid-South Lithographing Co. and Blackwood Bros., damaged. Carelessly discarded cigarette.
Parsons, Tenn.—Parsons Ice Co. and Holcomb Produce Co. destroyed.
La Port, Tex.—Boat shed at La Port Yacht Basin, destroyed.
Tanglewood, Tex.—Dwelling of Herschel Mills Duncan, Jr., destroyed. Defective wiring.
Ogden, Utah—Kay Noodle Parlor, cafe, destroyed; Intermountain Publishing Co., damaged.
Provo, Utah—Cluff's Feed Mill destroyed. Spontaneous ignition.
Halifax, Va.—Richard Edminds lumber yard, destroyed.
Luray, Va.—Storage building of Schewel Furniture Co. destroyed.
Norfolk, Va.—Virginia Motor Co. damaged. Sixty cars destroyed.
Vansant, Va.—Three adjoining buildings destroyed.
East Stanwood, Wash.—Stanwood Auto Supply Co. and adjoining grocery, destroyed.
Naches, Wash.—Moore Bros. hardware store destroyed.
Winthrop, Wash. — Trading Post building destroyed.
Mammoth, W. Va.—Building of Schdeed Mercantile Co. destroyed; nearby dwelling of Milton L. Wriston, destroyed.
Moorefield, W. Va.—Hardwood planing mill operated by F. C. Cook Co., destroyed.
Middleton, Wis.—Mansion owned by C. K. Leith, former professor of geology at University of Wisconsin at outskirts of city, destroyed.
Stoughton, Wis. — Stoughton Country Club on outskirts of city, destroyed. Defective wiring.
Tomahawk, Wis.—Main plant of Tomahawk Boat Mfg. Co. destroyed. Spontaneous ignition.
Waukesha, Wis.—Dairy barn on Wallace Dunn farm, five miles west, destroyed. Lightning.
Campbellford, Ont.—Ten stores including snack bar owned by Ed Stanbury, destroyed. Short circuit.
Hamilton, Ont.—Warehouse of B. Wright Fruit Co. destroyed.
Minico, Ont.—Delivery depot of Wonder Bakeries, Limited, destroyed.
Parry Sound, Ont.—Three buildings in downtown business block in this Georgian Bay community, including grocery, destroyed.
Stratford, Ont.—Club house of Stratford Golf and Country Club, destroyed.
Toronto, Ont.—Tops Restaurant destroyed.
Toronto, Ont.—Chemical storage room and laboratories in north wing of Forest Hill Collegiate Institute, destroyed.
Toronto, Ont.—Rempel Manufacturing Co. and Spun Metal Co. plants and office and yard of Standard House Wrecking & Lumber Co., damaged.
Amos, Que.—Two stores and two dwellings near this northwestern Quebec center, destroyed.

CAIRNS

AMERICA'S "REGULATION" STANDARDS

The "NEW YORKER"
No. 5A

The "original" leather helmet, introduced by CAIRNS in the early 1800's, and steadily improved through the years since. Its specially-tanned top-grain steer hide and superior design make the "NEW YORKER" the safest, toughest, strongest, most durable helmet on the market.

FIRE

The "SENATOR"
No. 350

Pressed from one piece of rolled aluminum, with corrugated 4-comb crown and reinforced beaded brim, the "SENATOR" meets the preferences of those seeking a light-weight helmet that is comfortable, safe, strong and durable.

HELMETS

The "CLIFTON"
No. 900

Here's the latest of the modern "plastic" helmets—a replica of the "NEW YORKER" in style, but molded in CAIRNS "Flint-Flex"—hard but not brittle, tough and flexible while still keeping its shape, light in weight, non-conducting, chemical-resistant.

The CAIRNS line also includes other helmets in drop-brim and other styles — in leather, aluminum and "Flint-Flex," and in other weights — all of standard CAIRNS QUALITY. We can supply everything the fireman needs for his personal equipment. Write for Catalog 341.

CAIRNS & BRO., Inc. - Allwood, Clifton, N. J.

SINCE 1836

PACIFIC PUMPERS
famous for power plus portability

MODELS "Y" and "5-A" are the two most popular Pacific Pumpers in the field . . . used and proven by private and public fire protection agencies throughout the world. Both are lightweight, perfected for dependable operation and adaptable to all modern accessories and techniques.

Above: Model "Y" . . . medium weight (70 lbs.) for portability with power . . . 63 g.p.m. at 100 p.s.i. to 20 g.p.m. at 225 p.s.i. Below: Model "5-A" . . . lightweight (38 lbs.) but pumps more water than any other comparable unit . . . 32 g.p.m. at 80 p.s.i. to 6 g.p.m. at 275 p.s.i.

PACIFIC "PACOLIZED" HOSE...

the best lightweight hose you can buy for portable or emergency water supply . . . permanently mildew proof and rot resistant . . . the most flexible hose of its type.

Specify "Pacific" Pumpers, Hose and accessories. Write for information on the "Y", "5-A" and the full line of Pacific fire equipment, perfected for portability and high performance.

PACIFIC *Marine Supply Co.*
FIRE EQUIPMENT DIVISION
SEATTLE 1, WASHINGTON

The WATCH DESK

Overhauling the firemanic news of the day

by ROI B. WOOLLEY

Cure Could Be Worse Than the Disease

Out Oak Ridge, Oregon, way, it's common knowledge that one way to attract attention in Oregon's vast wilderness of timber in the summer it to start a fire.

That's what Don Lewis, Kitson Springs fisherman, did when he lost his way. After traveling in circles for hours and getting nowhere, Lewis decided that one of the several forest lookout stations in the area would see the smoke of a "beacon" fire, and come to his rescue.

So Lewis touched off a blaze. Sure enough it was spotted by a watcher at Rigdon Guard Station. In a few minutes emergency fire fighters were on the ground.

They extinguished the fire after it had spread over part of an acre and was in a fair way to do a wholesale job of destruction. It could have developed quickly into a fire that would have threatened thousands of feet of valuable timber.

The forest service sympathized with Lewis, but not to the extent of condoning a fire. So they up and fined him $20 and costs. Even so, Lewis figures he came out ahead.

Thanks GEORGE WARREN

* * *

Ancient Wandering Fire Engine Returns

There's a bit of balm in Gilead, and the vamps of Alexandria, Va., are perking up, for that little old hand-pumper George Washington gave to Alexandria as its first piece of fire fighting equipment is home again, after a 100-year absence. Now if only those "damyanks" up Hudson-way will only come through with that other pumper, which Alexandria claims as its own, joy will be unconfined.

Seems the country's first president bought the old back-breaking manpowered "gine" for $400 in Philadelphia and donated it to Alexandria's Friendship Veterans Fire Engine Company. A century ago the company sold it for junk to buy a new piece of equipment. After various vicissitudes, the relic ended up in possession of Baltimore fire commissioners.

Alexandria's mayor Marshal J. Beverley recently talked the commissioners out of it. And last February, the Mayor rode up to Baltimore in a furniture truck—equipped with sofas and reporters —and brought the "mighty engine" back home.

"Veteran"—that's its name—is 7½ feet long, 4 feet high and 3 feet wide, and weighs 400 pounds. In Washington's day, the volunteer fire fighters proudly lugged it over Alexandria's streets, and back-ache or no back-ache, muscle-powered the pump when duty called.

So there was rejoicing in Alexandria. When the Mayor arrived at Friendship Station he hustled inside and tolled the fire house's 180-year-old bell (which in some way had been preserved). Then hizzoner helped move the 'gine into place. "This," he said, patting the long lost relic fondly, "is, well, just wonderful."

Then the Mayor looked to the n'oth. You could imagine what was in his mind: another ancient fire engine which he says some Yankee soldiers swiped from Alexandria during the Civil War, and which he claims is tucked away up in the Fireman's Home Museum in Hudson, N. Y., ought also to be "back home in Alexandria."

But up n'oth the "damyanks" say the 'gine never was Alexandria's anyway, and they 'low as how they be agoing to hang onto the museum piece. Meanwhile Mayor Beverley ponders—and plots?

* * *

This Macy Fire No Bargain!

Said to be one of the world's largest department stores, Macy's, Broadway at 34th street, New York City, is a pretty busy place. Few such establishments are better protected against fire, which is always a potential threat to life and property in such occupancies. That this fire protection system is effective is attested by the fact that Macy's has been singularly free from serious fires for many years.

That is why when on March 16th, fire finally visited the store, there was much ado, although the blaze itself was more fuss than fury and, like many others like it, received more publicity than its seriousness warranted.

The fire in question came about when sparks from a welder's torch (where have we heard that one before) ignited materials in a cooling tower on the tenth floor roof of the store. The tower, reportedly 18 feet square, rises 20 feet above the roof and is a part of the establishment's air conditioning system.

Much like similar fires there was considerable smoke, out of all proportion to the blaze, according to fire fighters. The result was considerable excitement among crowds on the street, not to speak of those inside the store who were aware of the fire, and the thousands of persons who witnessed the incident on TV.

Taking no chances, the first chief officer in charge wasted no time when he saw what quite apparently was a serious fire and realized the occupational and other hazards. He banged in a second alarm bringing some 20 pieces of fire apparatus, and a small army of top brass, including Fire Commissioner Edward F. Cavanaugh, Jr.,two police emergency trucks, an undetermined number of traffic police and other services.

Traffic on Broadway, Sixth ave. (Avenue of the Americas) and Thirty-Fourth street was strangled and the latter street was closed for thirty minutes when fire hose was strung across it. Customers, however, were not much disturbed by the fire, but 150 employes, including telephone operators, were evacuated from nearby areas.

WOR-TV, which has studios in the Empire State Building a block away, at Fifth Ave., televised a play-by-play account of the event by pointing its cameras out of its eighty-third floor windows. Fast work by Manhattan's midtown smoke-eaters brought the smoky blaze quickly under control, while inside, the store business as usual, or nearly so, was carried on.

She Got It Wholesale!

A woman visitor at the Griffin Hospital, Derby, Conn., grew thirsty on Jan. 28, and pulled a gadget on the wall she thought would release a drinking cup.

As a result, 22 pieces of fire apparatus and 450 volunteer firemen from Ansonia, Derby, Shelton and Seymour roared to the hospital. The woman realized immediately she had released more than a paper cup, and disappeared, but the firemen laid 3,000 feet of hose before they found that only a glass of water, and not several thousand gallons, had been needed.

TOM MAGNER

* * *

Building a Fire Under Ticket Sales

There are many ways to sell tickets to a firemen's benefit. Here's the latest.

The crowd that invariably follows the fire engines got a big surprise recently, when firemen of Oshkosh, Neb., set fire to a pool of oil on a dead-end street, and sounded a fire alarm.

As the smoke rose into the heavens, the usual crowd collected. Then when the gathering had reached sizable proportions, the vamps blocked off the open end of the dead-end street.

Then they delivered a warning to the curiosity seekers that the next time they followed the fire trucks they would get traffic tickets, after which they sold tickets to the firemen's benefit feed.

A record sale was reported.

Thanks, JOHN LYND

* * *

Hot Off the Tape

A motorist in Great Falls, Mont., decided to build a small fire under his car to thaw out the frosted engine. You guessed it—firemen saved his blazing car. . . . In Minneapolis, Minn., Mrs. Naomi C. Steine, a widow arrested and sent to the workhouse three times for starting fires while smoking in bed, burned to death March 25th, last, when a cigarette set her dressing gown on fire. She was in bed at the time. . . . The bedroom of the Dawson family, in Philadelphia, burned down because three-year-old Jimmy Dawson decided to go to bed with a cigar. . . . Out Grand Island Neb.-way, Police Chief Joe Bosler was attending ceremonies at the local airport, when he put his lighted pipe in his overcoat pocket and accidently set it on fire. Dick Evans, standing nearby, quickly beat out the fire. Evans, in case you wanna know it, is Fire Chief. . . . A dozen Springwater, N.Y., firemen were sifting the ashes of a migrant worker's building when the "body" they were hunting for, strolled sleepily from a nearby barn and asked what was going on. Seems, Alex' Ross a farm hand, jumped from a second story window when the fire broke out on a Sunday night. He crossed the road and went back to sleep in the barn. . . . Five persons were injured early April 1, 1954, in Manhattan, N.Y., when a ladder truck, returning from a false alarm, brushed a bus at 10th ave. and 28th st., mounted a sidewalk and sped 100 feet between three buildings and five parked trucks. No fireman was injured "thanks to miraculous maneuvering by the truck's driver and tiller operator" sez the press. The bus driver got himself a summons. . . . In another New York City accident, two men were injured, one critically, on Apr. 4th, when a private car collided with a ladder truck which was answering an alarm to a minor fire in Astoria. Accident happened shortly before 3:00

Fyr-Fyter

A SINGLE SOURCE FOR A COMPLETE LINE OF

Municipal, Industrial and Commercial Fire Departments...

Fyr-Fyter offers you the *industry's most complete line* of fire protection equipment and accessory fire-fighting products . . . you can select *all* your needs from a *single source!* Consider the advantages this gives you. You eliminate the confusion of deciding where to buy. You talk to one salesman who offers you practically a limitless list of Underwriters' Approved portable fire extinguishers, and accessory items including nozzles, valves, hose, hose fittings, pumps, firemen's tools, clothing, ladders, warning and signal devices, first aid kits, masks, breathing apparatus, and other safety equipment. You place one order, check in one shipment, and pay one bill!

You get all these advantages when you buy from Fyr-Fyter, a firm with a nationally respected reputation for *quality* products since 1916!

SEND FOR COMPLETE INFORMATION NOW!

TEAR OUT THIS COUPON AND MAIL WITH YOUR LETTERHEAD TODAY!

☐ Send your 40-page Fyr-Fyter Extinguisher Buyer's Guide.

☐ Send your 60-page Fyr-Fyter Accessory Products Catalog.

☐ Send a Fyr-Fyter Representative. Let's talk it over. No obligation.

DEPT. 10 FF-1

The *Fyr-Fyter* Co.
(FIRE) (FIGHTER)
221 CRANE STREET, DAYTON 1, OHIO
REPRESENTATIVES IN PRINCIPAL CITIES

A.M. at 21st st. and Hoyt ave. Sidney Nigberg, 37, passenger in the car, suffered critical injuries. Anton Gluck, 45, driver of the car received a summons. . . . The Town Clerk of Westerly, R.I., began issuing 1954 dog licenses on April 1st. They were shaped like fire hydrants. No April fool's joke, this. . . . While two companies of Yonkers, N.Y., firemen fought a small fire in the sacristy of Our Lady of Mount Carmel Roman Catholic Church April 3rd, some 450 persons, most of them children, sat unaware in the church, attending mass. . . . In Jamestown, N.Y., Mrs. Ann Wilhelmina Wilson of suburban Celoron said she would file a claim against the city of the damage her car incurred when it struck a fireplug. She said the plug was too close to the curb. . . . Out in Pompton Lakes, N.Y., area, two parked cars were damaged in accidents. One was owned by a fireman who was fighting a brush fire. His parked vehicle was rammed by Salvation Army truck. . . . In Harrison, N.Y., on April 1st last, a fire truck rolled out of the station on Harrison ave. at 6:40 A.M. The driver beckoned a passing motorist, William Niles, to follow his apparatus. Miles, a local vamp himself, found it was no April Fool's joke. The fire was in his apartment at 261 Halstead ave. . . . Burning with zeal is the way the wayward press described the efforts of Hose Co. No. 2 members of the Larchmount, N.Y., Fire Department operating at the March departmental drill. The "burning" reached a feverish pitch when the pumper caught fire on the way back to the station. "Zealous" vamps soon traced the fire to a short circuit under the dash, and snuffed it out. "The payoff" said one wag, "woulda been having to send in a still alarm to knock out the fire in our own fire truck." Fact is, Mamaro' firemen who located their pumper from Mamaroneck, N.Y., in the Larchmont fire house, would just loved to have been called to go to work on their fellow-firemen's rig. . . . In Berlin, Conn., 18-months-old Gary Hogan's command of the spoken word isn't complete, but it sufficeth. The tot pointed to the kitchen of his home, crying "See! See!" Gary's mother saw. The room was on fire.

"DON'T scrap that Truck !!"

MODERNIZE YOUR OLD EQUIPMENT--- AT GREAT SAVINGS!!!

THIELE will bring your obsolete Fire Trucks up to date

REMODELING SERVICE NOW SUPPLEMENTS OUR COMPLETE LINE OF FIRE APPARATUS EQUIPMENT

Today many old fire trucks are being scrapped unnecessarily and with them goes a lot of good serviceable equipment. This valuable equipment can be utilized through Thiele modernization to compete favorably in performance alongside the most modern of fire fighters.

Unlimited possibilities! The Thiele modernization service is flexible and adaptable to meet most every demand. Each piece of equipment will be exclusively designed to meet your most exacting specifications.

- Old truck body rebuilt and installed on new chassis.
- New bodies of any type or size furnished.
- Old pumps transferred or new pumps added.
- High pressure fog equipment added.
- Restyling of units into squad cars, rescue vans, pumpers, combination units and various other arrangements.

GREAT SAVINGS are yours when Thiele modernizes your obsolete equipment. Now it is possible for low-budget fire companies to have "up-to-date" fire fighting apparatus.

So let Thiele—the originators and designers of the Fog-Kar—make your dream of having a modern fire department a reality.

ATTENTION *Equip. Distributors*

Use our customized facilities for your equip. installations. All franchise rights protected.

W. J. THIELE & SONS, INC.

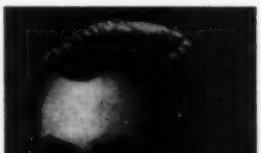
Pine at Cherry Johnstown, Pa.

Manufacturers and Distributors of Truck Equipment

Persons in the News

N.B.F.U. Announces Appointments

Lewis A. Vincent, general manager of the National Board of Fire Underwriters, recently announced the appointment of J. Wendell Sether as manager of its public relations department and Theodore W. Budlong to the post of assistant manager.



J. Wendell Sether

This follows the naming of Donald B. Sherwood as assistant general manager. He will supervise activities of the public relations department as well as loss adjustments.

Mr. Sether attended the University of Southern California. After graduation, he was with the Los Angeles Evening Herald and Express seven years as reporter and later as picture editor. In 1941, he was connected with the Coordinator of Information, predecessor agency of the Office of War Information.

In this capacity he set up a radio monitoring station in San Francisco to study and analyze Japanese propaganda broadcasts to the Far East. He was later transferred to New York as chief of the OWI analysis section.

In 1943, Mr. Sether went to England where he established an intelligence and liaison office with the BBC. He handled propaganda and intelligence for the U. S. military forces during that time and became chief editor of ABSIE, the American Broadcasting Station in Europe in 1945.

In March 1946, Mr. Sether joined the National Board of Fire Underwriters public relations department as a staff writer and developed its photo and film libraries, and public information facili-

ties, supervising production of National Board films.

Mr. Budlong, son of the late E. C. Budlong, a leader in the accident and health field, has made a career in the insurance business.

Theodore W. Budlong

His first job with a multiple-line company was as underwriter in the accident and health department of the Commercial Insurance Company of Newark. He was editor of the first house organ for that company, the Accident and Health Fieldman. While with the Commercial Casualty and Loyalty Group, Mr. Budlong handled special assignments in the field, which included one year in Chicago and six years in San Francisco. In San Francisco, he served as executive special agent, accident and health department for the Pacific Coast.

In 1936, Mr. Budlong was promoted to the home office in Newark as assistant to vice-president in charge of publicity and advertising, and as editor of the Loyalty Group house organ. In 1939 he became director of publicity and advertising for the Loyalty Group Companies, and in September, 1944, was drafted by the National Board of Fire Underwriters to serve in the public relations department, where he was advertising manager for six years.

Mr. Budlong was president of the Insurance Advertising Conference 1946-7. He served on the executive committee of the conference for six years.

Chief Tom Collins Honored by 400

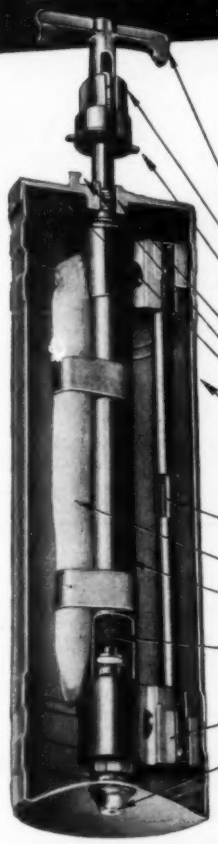
The "400" of the Connecticut fire service, together with prominent civic and state authorities over 400 in number, tendered New Haven's new fire chief, Thomas Collins a testimonial banquet, Monday, April 19th.

The affair was held at the Fire Department's Training Ground Auditorium, and Mrs. Collins helped share the honors.

Chief Collins, who recently succeeded widely-known Chief Paul P. Heinz as head of the Fire Department, was presented a gift by Bernard Farrell, treasurer of the general committee, of which Battalion Chief Andrew Flanagan was the general chairman.

Principal speaker was Chief Roi Woolley, Assistant Editor *Fire Engineering*, who praised the unstinting work of Chief Collins in helping

MORE *built-in* PROTECTION!



BUFFALO better-built
Trade-Mark Registered

VAPORIZING LIQUID EXTINGUISHERS

- FORGED BRASS HANDLE
- LEAKPROOF SEAL CAP
- CONVENIENT, EASY SHUT-OFF
- MOISTURE PROOF BREATHER
- ONE PIECE FORGED BRASS CAP and LOCK
- EMBOSSED BRASS SHELL FOR STRENGTH
  Protects pump heads
- ONE PIECE VIBRATION and SHOCKPROOF PICK UP VALVES
- DRYEX CORROSION PREVENTION
- INSTANT DOUBLE-ACTING PUMP
- GRAPHITAR PISTON . . . will not corrode
- REVOLVING DOUBLE END PICK UP
- RECESSED BRASS NOZZLE

GUARANTEED FOR 2 YEARS!

AVAILABLE IN 1 QT., 1½ QT.
1 GALLON AND 2 GALLON SIZES

UNDERWRITERS' LABORATORIES, FACTORY MUTUAL AND COAST GUARD APPROVED!

You get surer fire protection from Buffalo better-built extinguishers because there's more protection built-in! Highest engineering standards, exacting manufacture and precision inspection produce the finest extinguishers possible. Dealing with your Buffalo industrial distributor has many advantages. He carries a complete line of Buffalo *better-built* portable extinguishers, parts and recharges. Simply call him, one transaction, will answer your fire protection needs in a hurry. Call him now! He is listed in the yellow pages of your telephone directory!

WRITE TODAY FOR THIS COMPLETE POCKET GUIDE TO FIRE PROTECTION!

SINCE 1895 . . .
BUFFALO FIRE APPLIANCE
CORPORATION
DAYTON 1, OHIO

Champion Fire Apparatus

A highly efficient pumper apparatus with the Champion Three Stage Centrifugal Pump powered by Diamond T. The Pump is the Type SH750 which delivers 750 gallon Underwriter performance plus 60 gallons per minute at 850 lbs. for high pressure fog.

Or this Darley Apparatus is also available in Underwriter capacities of 600 GPM and 500 GPM. Modern commercial truck motors have adequate power for either 750, 600 or 500 GPM pumps.

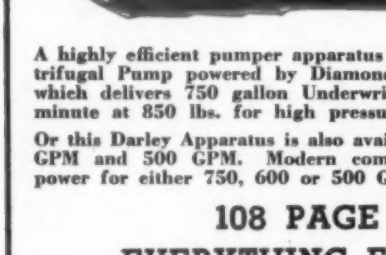
108 PAGE CATALOG
EVERYTHING FOR FIRE DEPTS.

Write Today For Your Copy

Factories—Chicago and Chippewa Falls, Wis.

W. S. DARLEY & CO., CHICAGO 12

AT YOUR SERVICE: Sales and Service Representatives—East, Midwest, North, South



MODEL 20 SIRENLITE
for Emergency Vehicles

Siren sounds a penetrating warning, red light automatically flashes authority. Traffic opens instantly, day or night. FREE ROLLING feature.

STERLING SIRENS

- **HANDSOME**
- **RUGGED**
- **RELIABLE**

Built by proud craftsmen to the highest standards of precision manufacturing . . . utilizing materials of finest quality . . . Sterling Sirens give year-after-year of unsurpassed dependability and satisfaction.

MODEL M GENERAL
FIRE ALARM SIREN
for Volunteer Systems

Quick acceleration, power-plus . . . Model M really gets the boys out in a hurry! Used by championship companies from coast to coast. A dependable, heavy-duty siren built of the finest materials throughout.

Complete line of Siren Equipment • *Bulletin on Request*

THE STERLING SIREN FIRE ALARM CO., INC.
10 BARTLETT ST., ROCHESTER 8, N. Y.

make the Department's training ground a model for the nation's fire service. Others who lauded the new chief included Chief Paul Heinz (ret.), the city's new Mayor, Richard C. Lee; former mayor, Wm. C. Celentano; state finance commissioner, Frank Lynch; fire board president, Frank J. Dahill; Earl Ellis, president of the Annex Fire Department, and the Rev. Charles Hewitt, pastor of St. Bernadette's Church.

Chief Collins became a sub-fireman March 11, 1919, and was made permanent fireman Nov. 5th of that year. He was appointed lieutenant April 1, 1925; junior captain, Jan. 1, 1928; senior captain, July 1 of that year; battalion chief, August 18 1943; 3rd deputy chief, Dec. 26, 1945; 2d deputy chief one year later, and 1st deputy chief No. 2, 1949, and assistant chief on Jan. 7, 1953. He was promoted to chief Dec. 12th, 1953.

Chief Collins served in World War I. He and Mrs. Collins have a son Robert, presently a lieutenant in the Marine Corps.

Connie O'Sullivan Now Plant Chief

Connie O'Sullivan, former chief of the Memphis, Tenn., Fire Department, who retired from active service several years ago, accepted the post of Chief of Plant Protection for the American Finishing Company in Memphis, Tenn. He has 21 members in his 3-shift Fire Brigade. The plant covers nearly 40 acres, nearly all of which area is occupied by buildings.

JIM FLYNN

Chief A. J. Cote Retires

Fire Chief Augustin J. Cote ended 54 years of municipal service for the City of Woonsocket, R. I., by retiring, at the age of 78.

For 46 of those busy years the popular fire fighter headed the Woonsocket Fire Department. His retirement was hastened by an arm injury suffered in line of duty.

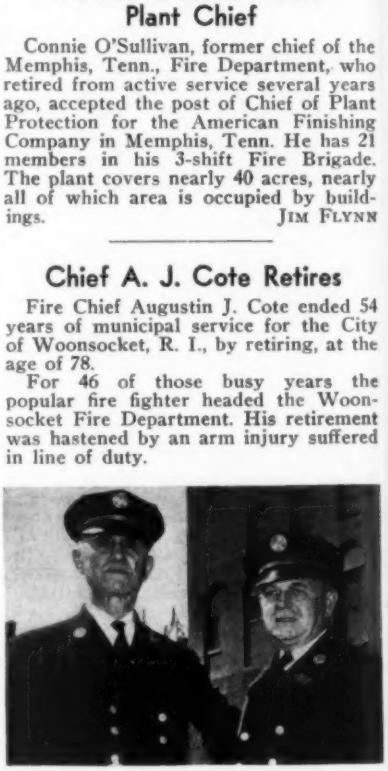


Photo courtesy Andy Palmer

Chief Cote and his successor, Chief Leo J. Roy.

Generations of Woonsocket residents have applauded the enthusiastic progressiveness of the stalwart chief over the years which brought him the title the oldest fire chief in the country in point of service. He served under 16 mayors, through their 27 terms, and under his regime he saw the old horse-drawn force replaced by the radio-equipped, motorized and otherwise modern facilities.

Under a special law, the Chief could only be retired by his own voluntary action. In December, 1944, his City

Council dispelled rumors of his retirement by giving him a vote of confidence.

Chief Cote is a charter member, and one of the three living such members, of the New England Association of Fire Chiefs and is also vice-president of the New England Division of the International Association of Fire Chiefs. He is also an active member of the Massachusetts and Rhode Island Fire Chiefs Clubs.

He was born in St. Hugues, Quebec, came to Woonsocket as a boy, and joined the fire department on January 7, 1901. He was appointed Chief in 1908 and was made permanent Chief by an act of the state legislature in 1913. Under his direction the city has received a Class B rating of the insurance underwriters.

"Acting" Chiefs to Remain in New York

Six Captains in the New York Fire Department who sought to restrain the Fire Commissioner from designating them as Acting Chiefs of Battalion have lost their case. The Supreme Court's decision is to the effect that the Fire Commissioner has responsibility, under the law, to protect life and property "and this duty must be performed with the available personnel under his command."

Justice Thomas A. Aurelio declared in his decision that the Fire Commissioner's power to make such designations is clear and cannot be said to be arbitrary or capricious. The Court held that the Fire Commissioner cannot be restrained from exercising the essential duties of his office. The Fire Commissioner was represented by the head of the City's Law Department.

Attorney for the six Captains argued that they have been serving for years as Acting Chiefs without additional pay. He said that it was contrary to the State Constitution and the civil service law. He attacked "the artifice of temporary assignment."

The City Attorney blamed sick leaves, vacations and leaves of absence for causing the vacancies which have to be filled temporarily. He also blamed the Budget Director for withholding approval of the requests of the Fire Commissioner for funds with which to fill vacancies. As of December 1, 1953, there were the following vacancies in the fire fighting force of the NYFD: Division Chiefs 10, Battalion Chiefs 5, Captains 20, Lieutenants 47, Marine Engineers 6 and Firemen 166.

JERRY DALY

On the Hot Seat

Red Oak, Ia., fire fighters won a bout with fate on the evening of March 11th, last, when they successfully extinguished a fire in a Watson Brothers explosive truck loaded with 29,000 lbs. of TNT.

Driver of the truck, Ralph Chambers, stopped his vehicle in the driveway of a farm at the east city limits of Red Oak, on Highway 34, when two right rear tires caught fire. He called for the fire department and battled the blaze with a hand extinguisher until firemen arrived.

Chambers said he was en route from Joliet, Ill., to Nebraska Ordnance Plant at Mead. He blamed the fire on friction developed after one tire of the dual wheel went flat.

Fire Chief Frank Neil reported only scorch damage to the truck.

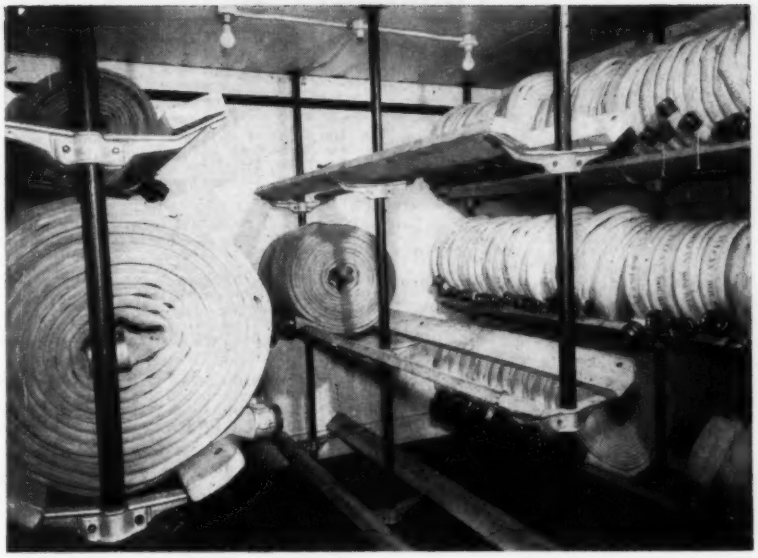
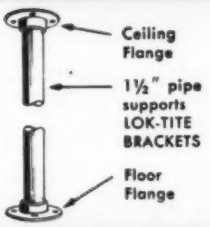


Photo Courtesy Wichita Fire Station No. 1

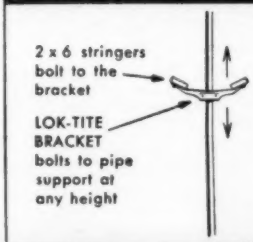
The Solution to Hose Storage Problems

FEATURES

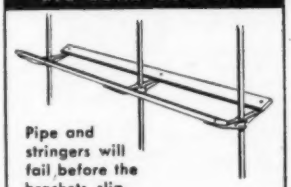
SIMPLE INSTALLATION



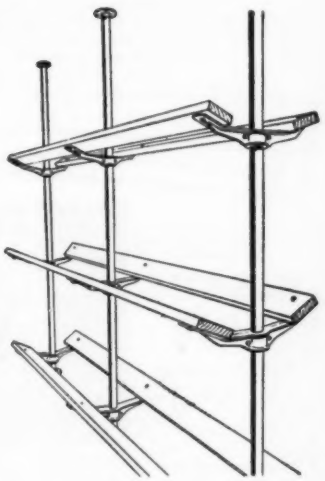
EASY ADJUSTMENT



BIG LOAD SUPPORT



Build Your Own Racks With Lok-Tite Brackets



MIGHTY few station houses have all the room they need for good housekeeping. Lok-Tite brackets help solve the hose storage problem by allowing ample ventilation and access in limited storage space.

Build your own racks with new or used materials. Design your own storage to take full advantage of the space available. Have ample room for fittings inspection and ventilation.

Lok-Tite brackets, light weight aluminum alloy, designed for strength and easy installation.

$3.65 F.O.B. Wichita

W-B MANUFACTURING COMPANY

157 NORTH WACO STREET — WICHITA, KANSAS

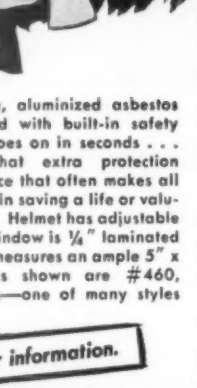
PROTECTS your face

Heat-reflecting, aluminized asbestos fireman's hood with built-in safety helmet . . . goes on in seconds . . . gives you that extra protection around the face that often makes all the difference in saving a life or valuable property. Helmet has adjustable felt lining. Window is ¼" laminated safety glass, measures an ample 5" x 6¾". Gloves shown are #460, 14", asbestos—one of many styles we furnish.

Write for further information.

FIRE RESCUE SUIT

Field Tested up to 1800° F.



When searing heat calls for a man in a fire suit *fast*, he's got to get that suit on in a hurry—without fumbling. That's the ISSCO Fire Rescue Suit. A man can be in it and ready for action in less than a minute—*without help*. He's completely protected, in a roomy, pliable garment weighing only 28 lbs. He can see well. He can work rapidly, effectively—saving lives or knocking out the heart of a blaze quickly. Not just another "asbestos suit," but a scientifically compounded garment utilizing fibre glass, aluminum foil, vinyl-treated glass cloth and asbestos. Rigidly field tested up to 1800° F., with and without respiratory equipment. Complete details on request.

ISSCO makes a complete line of protective clothing — suits, gloves, mitts, coats, chaps, aprons, blankets, etc.

INDUSTRIAL SAFETY SPECIALTIES COMPANY

8th and Chestnut Sts., Perkasie, Pennsylvania

Protective clothing for every situation!

Convention Dates

May 21-22—PUMP SCHOOL. To be held at the University of Maryland. For information, contact Robert C. Byrus, Director, Fire Service Extension, Fire Service Building, University of Maryland, College Park, Md.

May 22-23—MAUMEE VALLEY FREE FIRE SCHOOL. Annual meeting, Napoleon, Ohio. For information contact Earl Campbell, Box 164, Napoleon, Ohio.

May 22-23—OHIO REGIONAL SCHOOL, Orrville, Ohio. Sponsored by local county firemen's association and Ohio State Department of Trade and Industrial Education. Director, Walter R. Banning, 606 4th Street NW, New Philadelphia, Ohio.

May 23—NEBRASKA REGIONAL FIRE SCHOOL, North Bend, Neb. Secretary, Russell D. Salak, P. O. Box 312, Schuyler, Neb.; School Director Otto B. Johannes, Columbus, Neb.

May 24-26—EASTERN ASSOCIATION OF FIRE CHIEFS. Annual meeting, Elmira, N. Y. Secretary, Chief Edwin C. Clark, Box 271, Wayne, Pa.

May 28-29—PUMP SCHOOL. To be held at the University of Maryland. For information, contact Robert C. Byrus, Director, Fire Service Extension, Fire Service Building, University of Maryland, College Park, Md.

June 4-5—PUMP SCHOOL. To be held at the University of Maryland. For information, contact Robert C. Byrnes, Director, Fire Service Extension, Fire Service Building, University of Maryland, College Park, Md.

June 5-6—NORTHEASTERN PENNSYLVANIA VOLUNTEER FIREMEN'S FEDERATION FIRE SCHOOL. Annual meeting, Russel Park, Carbondale, Pa. Director, William Connor, c/o Mitchell Hose Company, Carbondale, Pa.

June 6—NEBRASKA REGIONAL FIRE SCHOOL, Bloomfield, Neb. Secretary, Russell D. Salak, P. O. Box 312, Schuyler, Neb.; School Director, Otto B. Johannes, Columbus, Neb.

June 6-8—NEW YORK STATE ASSOCIATION OF FIRE CHIEFS. Annual meeting, Hotel Martinique, New York, N. Y. Secretary-Treasurer, Ward A. Bohner, Fire Coordinator, Oneida County, Fire Headquarters, Utica, N. Y.

June 6-10—OREGON STATE FIRE CHIEFS' ASSOCIATION. Annual meeting, Baker, Ore. For information, contact Chief H. B. Damon, Fire Headquarters, Baker, Ore.

June 6-10 — NEW MEXICO STATE FIRE SCHOOL AND CONVENTION. Annual meeting, Truth or Consequences, N. M. Director, Clyde Cole, Chief of the Fire Department, Truth or Consequences, N. M.

June 7-10—SOUTHEASTERN ASSOCIATION OF FIRE CHIEFS. Annual meeting, Charlotte, N. C. Secretary-Treasurer, Chief G. A. Mitchell, Fire Headquarters, Opelika, Ala.

June 8-10—KENTUCKY FIRE SCHOOL. Annual meeting, University of Kentucky, Chairman; John L. Thompson, Assistant Manager, Kentucky Inspection Bureau, 940 Starks Building, Louisville, Ky.

June 8-12—COLORADO STATE FIRE SCHOOL AND CONVENTION. Annual meeting, Glenwood Springs, Colo. For information, contact E. W. Crawford, State Fire Instructor, 210 State Office Building, Denver 2, Colo.

June 10-12—NORTHERN NEW YORK VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, Carthage, N. Y. Secretary, James J. Doyle, 12 Clinton Street, Potsdam, N. Y.

June 11—FLORIDA STATE FIRE COLLEGE. Second of four sessions, Ocala, Fla. Director, W. H. Barnett, Superintendent, Florida State Fire College, P. O. Box 785, Ocala, Fla.

June 10-12—IDAHO STATE FIRE SCHOOL. Annal meeting, Boise, Ida. For information contact the Boise Fire Department.

June 11-12—PUMP SCHOOL. To be held at the University of Maryland. For information, contact Robert C. Byrus, Director, Fire Service Extension, Fire Service Building, University of Maryland, College Park, Md.

June 12-13—OHIO REGIONAL SCHOOL, Canfield, Ohio. Sponsored by local county firemen's association and Ohio State Department of Trade and Industrial Education. Director, Walter R. Banning, 606 4th Street NW, New Philadelphia, Ohio.

June 13 — NEBRASKA REGIONAL FIRE SCHOOL, Gordon, Neb. Secretary, Russell D. Salak, P. O. Box 312, Schuyler, Neb.; School Director, Otto B. Johannes, Columbus, Neb.

June 14-18—SOUTH DAKOTA FIRE SCHOOL. Annual meeting, Hot Springs, S. D. Secretary, Robert W. Hanigan, Box 423, Pierre, S. D.

June 15-18—MICHIGAN FIRE COLLEGE. Annual meeting, University of Michigan, Ann Arbor, Mich. Director, M. D. Whale, Supervisor, Public Service Training, P. O. Box 928, Lansing, Mich.

June 16—NORTHWESTERN OHIO VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, Ada, Ohio. Secretary, Earl Campbell, Box 164. Napoleon, Ohio.

June 17-19—HUDSON VALLEY VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, Haverstraw, N. Y. Secretary, Charles M. Fales, 92 Clove Avenue, Haverstraw, N. Y.

June 17-19—HERKIMER COUNTY VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, Herkimer, N. Y. Secretary, William Walrad, Herkimer, N. Y.

June 18-19—PUMP SCHOOL. To be held at the University of Maryland. For information, contact Robert C. Byrus, Director, Fire Service Extension, Fire Service Building, University of Maryland, College Park, Md.

June 20 — NEBRASKA REGIONAL FIRE SCHOOL, Chappell, Neb. Secretary, Russell D. Salak, P. O. Box 312, Schuyler, Neb.; School Director, Otto B. Johannes, Columbus, Neb.

June 21-23—MISSOURI VALLEY ASSOCIATION OF FIRE CHIEFS. Annual meeting, Colorado Springs, Colo. Secretary-Treasurer, Chief Ray Tiller, 319 East 5th Street, Waterloo, Iowa.

June 21-24—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. Annual meeting, The Wentworth by the Sea, Portsmouth, N. H. Secretary, John W. O'Hearn, 206 Mt. Auburn Street, Watertown 72, Mass.

June 21-24—ILLINOIS FIRE SCHOOL. Annual meeting, Gregory Hall, University of Illinois, Champaign, Ill. Registrar, Chief Roy W. Alsip, Box 8, Champaign, Ill.

June 21-25—MISSISSIPPI STATE FIRE COLLEGE. Annual meeting, Mississippi State College, State College, Miss. For information, contact Chief Robert A. Bogan, Fire Headquarters, Baton Rouge, La.

June 23—CENTRAL WESTERN FIREMEN'S CONVENTION. Annual meeting, Brookville, Ohio. Chairman, Robert Wright, Box 105, Brookville, Ohio.

June 24-26—UTAH STATE FIRE SCHOOL. Annual meeting, Salt Lake City, Utah. For information, contact Salt Lake City Fire Department.

June 24-25—NORTHERN CENTRAL NEW YORK VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, Waterloo, N. Y. Secretary, Samuel J. Pitcher, Box 91, Fairport, N. Y.

June 24-26—SOUTHERN NEW YORK VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, Oyster Bay, L. I., N. Y. Secretary, Ernest Stoll, Box 12, Bayport, N. Y.

June 25-26 — NEW YORK-PENNSYLVANIA FIREMEN'S ASSOCIATION. Annual meeting, Elkland, Pa., in conjunction with Elkland's Old Home Week. Secretary, Harry Drost, 247 Dodge Avenue, Corning, N. Y.

June 27 — NEBRASKA REGIONAL FIRE SCHOOL, Cambridge, Neb. Secretary, Russell D. Salak, P. O. Box 312, Schuyler, Neb. School Director, Otto B. Johannes, Columbus, Neb.

July 10-11—OHIO REGIONAL FIRE SCHOOL, Lyndhurst, Ohio. Sponsored by local county firemen's association and Ohio State Department of Trade and Industrial Education. Director, Walter R. Banning, 606 4th Street NW, New Philadelphia, Ohio.

Convention Dates

July 11-16—TEXAS FIREMEN'S TRAINING SCHOOL. Annual meeting, Texas A. & M. College, College Station, Tex. Director, H. R. Brayton, Engineering Extension, Texas A. & M. College, College Station, Tex.

July 13-16—MICHIGAN STATE FIRE CHIEFS ASSOCIATION. Annual meeting, Ishpeming, Mich. Secretary, Chief Harry L. Ridout, Muskegon Heights, Mich.

July 13-16—LOUISIANA STATE FIRE MARSHAL'S ARSON AND FIRE PREVENTION SCHOOL. Annual meeting. Monteleone Hotel, New Orleans, La. Director, Sidney S. Bowman, State Fire Marshal, New Orleans, La.

July 15-17—NEVADA STATE FIREMEN'S ASSOCIATION. Annual meeting, Ely, Nev. For information, contact Ely Fire Department.

July 15-17—"F" ASSOCIATION FOR FORMER U. S. NAVY, COAST GUARD AND MARINE CORPS FIREFIGHTERS. Annual meeting, American Legion Hall, Washington, D. C. Secretary-Treasurer, William J. Mignery, 1108 Bellevue Street, St. Joseph, Mo.

July 15-17—CENTRAL NEW YORK FIREMEN'S ASSOCIATION. Annual meeting, Watkins Glen, N. Y. Secretary, George W. Lang, 10 Ellwood Avenue, Cortland, N. Y.

July 16-17—HUDSON-MOHAWK VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, Scotia, N. Y. Secretary, Harold A. Cass, 2614 Albany Street, Schenectady 4, N. Y.

July 16-17—ONONDAGA COUNTY VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, tournament and parade, North Syracuse, N. Y. Secretary, Benedict Glenn, 211 Mackay Avenue, Syracuse, N. Y.

July 19—FLORIDA STATE FIRE COLLEGE. Third of four sessions, Ocala, Fla. Director, W. H. Barnett, Superintendent, Florida State Fire College, P. O. Box 785, Ocala, Fla.

July 19-22—SHORT COURSE FOR FIREMEN. Annual meeting, Dover, Dela. Director, Frank M. Forstburg, Delaware State Board for Vocational Education, 711 W. 8th Street, Wilmington, Dela.

July 19-23—WEST VIRGINIA STATE FIRE SCHOOL. Annual meeting, Morgantown, W. Va. Director, R. E. Hanna, Jr., Supervisor, Fire Service Extension Schools, West Virginia University, Morgantown, W. Va.

July 21-24 — WASHINGTON STATE FIRE SCHOOL. Annual meeting, Tacoma, Wash. Director, J. R. Cook, Assistant Supervisor State Board for Vocational Education, 1712 Harvard Avenue, Seattle, Wash.

July 22-24—ULSTER COUNTY VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, New Paltz, N. Y. Secretary, Fred C. Harder, 34 Jarrold Street, Kingston, N. Y.

July 23-24 — DUTCHESS COUNTY VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, Millbrook, N. Y. Secretary, Al Belle Isle, Glenham, N. Y.

July 23-24—EASTERN ONTARIO FIREMEN'S ASSOCIATION. Annual meeting and International Firemen's Day, Gananoque, Ont. Secretary-Treasurer, Gerald F. Hampton, Gananoque, Ont.

July 27-28—WESTERN NEW YORK VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, Tonawanda, N. Y. Secretary, James H. Surridge, 308 East Henrietta Road, Rochester 20, N. Y.

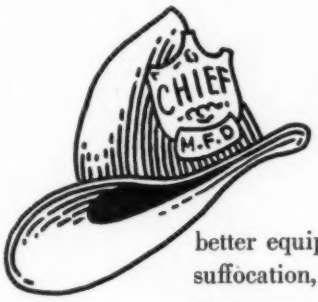
July 27-29—MISSOURI FIRE COLLEGE. Annual meeting, University of Missouri, Columbia, Mo. Director, J. I. Fetters, Administrative Assistant, Adult Education and Extension Service for Firemanship Training, University of Missouri, Columbia, Mo.

July 30-Aug. 2—FIREMEN'S ASSOCIATION OF ONTARIO. Annual meeting, Milton, Ont. Secretary, E. O. McNeely, 141 Brownville Avenue, Toronto 9, Ont.

Aug. 2-6 — PENNSYLVANIA FIRE SCHOOL. Annual meeting, Lewistown, Pa. Director, Edgar A. Spotz, Adviser, Fire Service Training, Box 911, Harrisburg, Pa.

STEPHENSON RESUSCITATORS

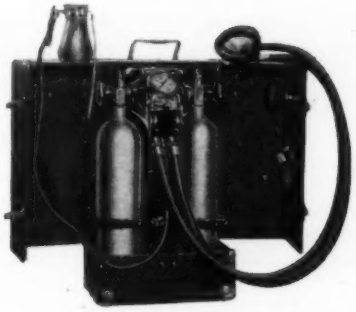
Quick – Safe – Dependable



Chief—

Now, as never before,
better equipment is offered to you to combat suffocation, heart ailments, electric shocks, etc.

Now you can do *more* for the patient
Quickly Safely Dependably



Many leading fire chiefs know from experience that Stephenson Resuscitators are the most efficient in saving lives.

Saves Lives
Protects Your Community,
Increases Your Department's Reputation and Prestige,
The New, Improved

STEPHENSON RESUSCITATORS

Write today for demonstration without obligation. Send for booklet F-105 to get complete information.

STEPHENSON CORPORATION
RED BANK NEW JERSEY

Makers of the Harger Drunkometer, used everywhere in industry and police departments, including New York City.

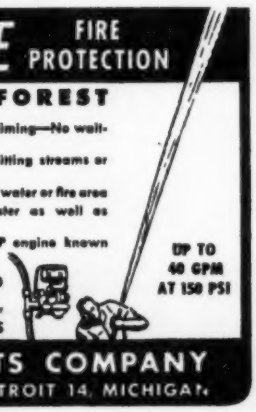
Write for Bulletin 6600-F

MORE **EFFECTIVE** FIRE PROTECTION

CITY • RURAL • FOREST

MODEL 6600 PUMPER—Instantly Self-Priming—No waiting when seconds count
HIGH PRESSURE—Use one or two hard-hitting streams or fire-blanketing fog-spray
LIGHT WEIGHT—Easily carried to source of water or fire area
NEOPRENE IMPELLERS—Pump dirty water as well as clean water—assure long life
POWER—Efficient 4-cycle, air-cooled 5 HP engine known and serviced world-wide
BY-PASS VALVE, SPRING LOADED GREASE CUP, NO LOSS OF PRIME, PLUS MANY OTHER FEATURES

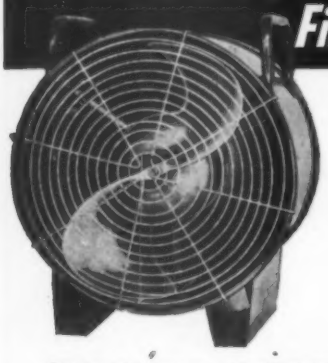
WEIGHS ONLY 110 LBS.



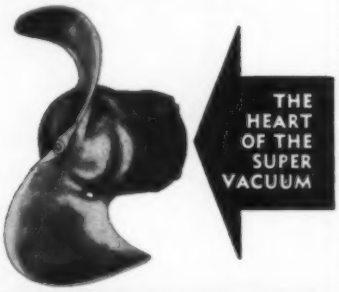
UP TO 40 GPM AT 150 PSI

MARINE PRODUCTS COMPANY
515 LYCASTE AVENUE • DETROIT 14, MICHIGAN

Revolutionary New Principle Increases Fire-Fighting Efficiency!



● The Super Vacuum Smoke ejector is a powerful portable fan unit designed especially for fire departments. This design is a new and revolutionary principle in moving air. Several thousand Super Vacuum Smoke ejectors are in use throughout the United States and Canada. Controlled ventilation is new and very necessary in fire fighting. Years of service and satisfied users are your best guarantee for any merchandise.



● The secret of Super Vacuum is the patented fan blade. Conventional fans chop the air and push it back. Whereas the Super Vacuum fan blade is a perfect spiral air screw which creates a partial vacuum, suction is created over the entire face of the blade and the air or smoke is discharged in a high velocity spiral. There are no dead spots—that is why Super Vacuum outperforms other fans twice its size.

Write for Additional Information or Contact Your Local Fire Equipment Dealer

MANUFACTURED EXCLUSIVELY BY

Super Vacuum MANUFACTURING CO.

319 East 17th Avenue • Denver 3, Colorado

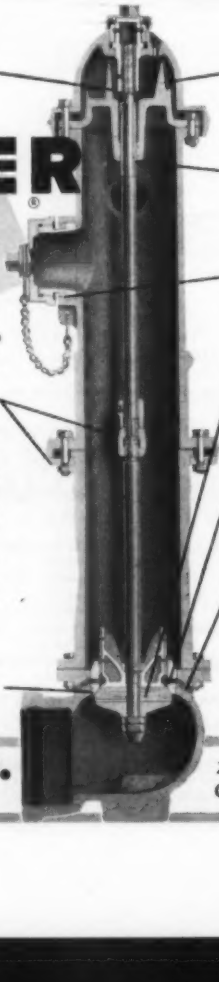
Oil Reservoir — Filled through pipe plug in bonnet — assures positive lubrication of stem threads.

MUELLER®

AWWA Improved FIRE HYDRANT

Safety Stem Coupling® and Safety Flange — Coupling and flange break on impact, preventing damage to stem and barrel. Permits convenient facing of nozzles. Extension sections may be added or upper barrel may be changed from two-way to three-way hydrant without digging or water shut-off.

Bronze Seat Ring — Straight threads for easy removal.



Dry Top Design — Prevents freezing of stem threads.

"O" Ring Seals — Make permanent water-tight seal around stem.

Breech Locked Nozzles — Interlocking lugs prevent blowout.

Compression-type Main Valve — Closes with water pressure.

Double Drain Valves — Integral part of main valve assembly.

Double Drain Openings — Force flushed each time hydrant is operated.

Write for Catalog A-201 today or contact your Mueller representative.

MUELLER CO.
Dependable Since 1857

2501 Chestnut St., Chattanooga, Tennessee

Convention Dates

Aug. 9-14—INTERNATIONAL ASSOCIATION OF FIRE FIGHTERS. Annual meeting, Miami, Fla. Secretary-Treasurer, George J. Richardson, of A. F. of L. Building, Washington 1, D. C.

Aug. 16-18—WISCONSIN FIRE SCHOOL, University of Wisconsin. Annual meeting, Madison, Wis. Director, J. J. Lichty, Coordinator Business Institutes, Box 3098, Madison, Wis.

Aug. 16-19—CANADIAN ASSOCIATION OF FIRE CHIEFS. Annual meeting, Saskatoon, Sask. Secretary-Treasurer, Allan H. Clark, Chief of Fire Department, Lakefield, Ont.

Aug. 17-18—FIREMEN'S ASSOCIATION OF THE STATE OF NEW YORK. Annual meeting, Buffalo, N. Y. Secretary, Eugene M. Braun, 4025 Main Street, Buffalo, N. Y.

Aug. 17-19—FIRE PROTECTION ENGINEERING CONFERENCE. Held under sponsorship of the M. I. T. School of Architecture and City Planning, the M. I. T. School of Engineering and the M. I. T. School of Industrial Management. For information regarding program, method of enrollment, living accommodations in the M. I. T. dormitory system, etc., write Professor Ernest H. Huntress, Director of the Summer Session, Massachusetts Institute of Technology, Cambridge 39, Mass.

Aug. 20—FLORIDA STATE FIRE COLLEGE, Fourth of four sessions, Ocala, Fla. Director, W. H. Barnett, Superintendent, Florida State Fire College, P. O. Box 785, Ocala, Fla.

Aug. 23-26—PACIFIC COAST INTER-MOUNTAIN ASSOCIATION OF FIRE CHIEFS. Annual meeting, Long Beach, Cal. Secretary-Treasurer, Jay W. Stevens, Merchants Exchange Building, San Francisco, Cal.

Aug. 23-27—TENNESSEE STATE FIRE SERVICE SCHOOL. Annual meeting, Middle Tennessee State College, Murfreesboro, Tenn. Directors, H. S. Elkins, W. A. Seeley, Fire Department Instructors, 215 Chesnut Street, Chattanooga, Tenn.

Aug. 25-28—MONTANA STATE FIREMEN'S SCHOOL. Annual meeting, Polson, Mont. Director, Clayton Brown, Chief of the Fire Department, Polson, Mont.

Sept. 4-6—NORTHEASTERN PENNSYLVANIA VOLUNTEER FIREMEN'S FEDERATION. Annual meeting, Taylor, Pa. Secretary, Harry Armstrong, 134 Washington Street, Taylor, Pa.

Sept. 7-11—OHIO STATE FIRE SCHOOL. Annual meeting, Ohio State University, Columbus, Ohio, Director, Dr. Henry Walker, Ohio State University, with Wayne Jeckins, Chief, Fire Prevention Bureau, State Fire Marshal's Office, Columbus, Ohio.

Sept. 7-10—MARYLAND SHORT COURSE FOR FIREMEN. Annual meeting, University of Maryland. For information, contact Robert C. Byrus, Director, Fire Service Extension, Fire Service Building, University of Maryland, College Park, Md.

Sept. 11-12 (tentative)—SOUTHERN WISCONSIN AND NORTHERN ILLINOIS FIRE SCHOOL. Director, Norris T. Ames, Insurance Building, Madison, Wis.

Sept. 13-17—VIRGINIA STATE FIRE SCHOOL. Annual meeting, Norfork, Va. Director, Clay A. Easterly, Fire Marshal, P. O. Box 112, Martinsville, Va.

Sept. 14-15—IOWA FIREMEN'S ASSOCIATION. Annual meeting, Independence, Ia. Secretary, Carl H. Fuchs, 2749 Kinsey Avenue, Des Moines, Ia.

Sept. 14-17—INDIANA STATE FIRE SCHOOL. Annual meeting, Purdue University, Lafayette, Ind. Director, Francis W. Hartman, Chief of Fire Training, Purdue University, Building FWA7, West Lafayette, Ind.

Sept. 17-18—JEFFERSON COUNTY VOLUNTEER FIREMEN'S ASSOCIATION. Annual convention and tournament, Deferiet, N. Y. Secretary, Jack Farrell, 418 Merrick Street, Clayton, N. Y.

Oct. 4-7—INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION. Annual meeting, Atlantic City, N. J. Secretary-Treasurer, Irwin Shulsinger, 130 West 42nd Street, New York, N. Y.

Convention Dates

Oct. 12-14—ILLINOIS FIREMEN'S ASSOCIATION. Annual meeting, Evanston, Ill. Secretary, R. W. Alsip, P. O. Box 8, Champaign, Ill.

Oct. 12-15—KANSAS STATE FIRE SCHOOL. Annual meeting, University of Kansas, Hutchinson, Kans. Director, Georald Pearson, Director, University of Kansas Extension Classes, 111 Fraser Hall, Lawrence, Kans.

Oct. 14-16—ARIZONA STATE FIRE TRAINING SCHOOL. Annual meeting, Phoenix, Ariz. Director, Harry C. Bigglestone, District Engineer, Board of Fire Underwriters of the Pacific, Luhrs Building, Phoenix, Ariz.

Oct. 17—GREAT LAKES ASSOCIATION OF FIRE CHIEFS. Annual meeting, Rice Hotel, Houston, Tex. Secretary-Treasurer, Chief Elmer Stough, 605 Fourth Street, Lorain, Ohio.

Oct. 18-20—NEBRASKA STATE VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, Lincoln, Neb. Secretary-Treasurer, Russell D. Salak, P. O. Box 312, Schuyler, Neb.

Oct. 18-21—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. Annual meeting, Houston, Tex. Secretary-Treasurer, Chief Daniel B. Tierney, 8 Robbins Road, Arlington 74, Mass.

Oct. 19-20—INTERNATIONAL FIRE BUFF ASSOCIATES, INC. Annual meeting, Houston, Tex., during the I. A. F. C. Conference. Secretary, E. R. Damaschke, 916 West Marshall Avenue, Ferndale 20, Mich.

Contributions to Volunteers

(*Continued from page 396*)

Territory or any political subdivision thereof, or the District of Columbia or any possession of the United States, for exclusively public purposes. Section 23(q)(1) provides for similar deductions in the case of corporate donors.

It has been held in a ruling published as I.T. 4030 in Internal Revenue Bulletin C.B. 1950-2, 23, that contributions made by individuals to organizations of volunteer firemen are deductible under section 23(o)(1) of the Code as contributions or gifts to or for the use of a political subdivision of a State, for exclusively public purposes.

Very truly yours,
H. L. SWARTZ
Director, Tax Ruling Division
U. S. Treasury Dept.
Washington, D. C.
Apr. 7, 1954

N.Y.F.D. Forms Personnel Division

The New York Fire Department has formed a Division of Uniformed Personnel to increase efficiency in handling its 11,414 officers and men. The new unit is headed by Deputy Chief Thomas A. McCoy, who has been in charge of the Fire Headquarters Office.

The Division was established in line with recommendations made by the Mayor's Committee on Management Survey to combine in one place personnel functions previously scattered throughout the department. Filing of disciplinary, pension and service record, examination of recruits, and "wiser use" of personnel, particularly limited service personnel, are some of the duties to be coordinated in the Division.

Acting Deputy Chief John P. Oakley will succeed Chief McCoy as deputy in charge of office. Assistant Chief Edward Connors will represent Fire Chief Peter Loftus on the Board of Standards and Appeals, succeeding Timothy P. Guinee, retired.

No lubrication necessary
Carbon bearings (oilless)
2 Piston-finished stainless steel shafts
Bronze housing (Oberdorfer alloy No. 741)
Bronze spur gears (Oberdorfer alloy No. 16438)

the new
OBERDORFER
BRONZE BOOSTER PUMPS

These booster pumps with oilless bearings will last 3 to 5 times longer than the old style equipped with plain bronze bearings. As a result of closer machining tolerances, over 20 feet of suction lift may be depended on.

The No. 13 and No. 26 Oberdorfer Pumps are more fool-proof than they have ever been. When you get to a fire you have something you can count on. It isn't necessary to wear pumps out checking them periodically to see if they will work. These pumps are metering pumps in principle and therefore must produce the same volume for every revolution of the drive shaft.

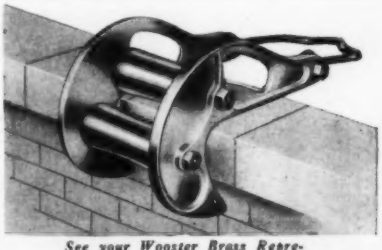
PERFORMANCE DATA—No. 26 and No. 13 PUMPS

Pump No.	Pump Shaft R.P.M.	Pounds Pressure	Hose Length and Size	Dry Suction Lift in Feet	Vol. in Gal. Per Minute
26	1600	120	500'—1½"	20'	150
13	1600	120	500'—1½"	20'	75

FIRE PUMP DIVISION, Oberdorfer Foundries, Inc., Syracuse, N. Y.

"TRUMPET" HOSE HOISTS
TAKE LESS SPACE

A small, compact and lightweight hose hoist to replace the bulky, cumbersome types now in use. Only 13" x 8" x 8", yet strongly constructed of Woosterlite alloy with bronze bushings and cold rolled steel pins and rope hook. Hook folds inside hoist and accommodates a coil of rope without bulking. Easy to use—easy to handle.

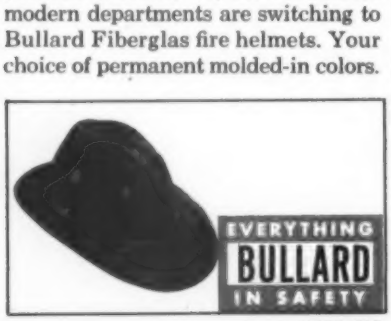


See your Wooster Brass Representative or write direct.

WOOSTER BRASS
WOOSTER, OHIO
A DIVISION OF FYR-FYTER CO.

WOULD YOU BUY A RIG LIKE THIS?

No up-to-date department would use an obsolete wagon like this, yet many are still using old-time fire helmets. There's as much difference between *new* Bullard Fiberglas helmets and others as there is between the above rig and the trucks you use today. Fiberglas helmets surpass all standard drop and dielectric tests, yet are lighter—more comfortable to wear. Test them yourself. Discover why more and more modern departments are switching to Bullard Fiberglas fire helmets. Your choice of permanent molded-in colors.



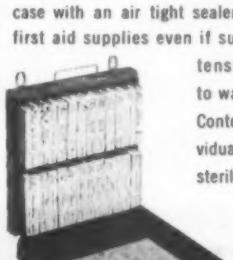
SINCE 1898

E. D. BULLARD COMPANY

DISTRIBUTORS THE WORLD OVER

275 Eighth Street, San Francisco, California

FIRST AID KITS Packed in heavy duty case with an air tight sealer that protects first aid supplies even if subjected to intensive exposure to water and dust. Contents each individually wrapped in sterile unit packs.



The ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

HYDRANT PURCHASE, REPAIR AND MAINTENANCE

THE discussion in this Round Table is a continuation of that which appeared in the April issue on hydrant purchase, repair and maintenance.

The generous response from our readers make it necessary to carry the discussion over to this issue and to next month's issue as well.

Readers are invited to send in their comments on this subject, which is described in a box on this page. Address replies to Round Table Editor, FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

Discussion of the Topic

V. T. Rinehart, Chief, Lakeland, Fla.: The Street and Sanitary Departments of the city are allowed to use hydrants as well as building contractors. They are also used for road work, watering and spraying groves.

The Light and Water Department purchase, maintain, repair and inspect fire hydrants. That department and the City Commissioners determine where fire hydrants should be placed. It is my opinion that all fire hydrants and their care should come under the Chief of the Fire Department, and that all municipal departments should be required to get a permit from the City Manager or the Mayor. They should be required to follow certain rules governing the use of fire hydrants, such as time, care, and above all, the use of regular fire hydrant spanners.

I further believe and recommend that a maintenance man or men should be appointed to inspect, repair and keep in good condition at all times the fire hydrants of the city.

I also believe the fire chief should recommend where new fire hydrants should be placed.

M. H. Sutton, Chief, Washington, D. C.: We have not been able to limit the use of fire hydrants to the Fire Department. They are used by the Department of Sanitation for filling their tank trucks for street flushing.

On occasions where water is unavailable, construction builders are granted permission to obtain hydrant water.

The Water Department purchases, maintains and repairs all hydrants. The Fire Department determines where they are to be placed. The Water Department also inspects the hydrants, although the Fire Department reports to them any condition involving hydrants which need corrective measures.

The Water Department notifies us immediately whenever any fire hydrant is "out of service" or placed "in service." Once each month we send to the Water Department a list of the fire hydrants which are being carried as "out of service." Should some of the hydrants listed be "in service" without the knowledge of this department, the Water Department investigates to determine who was responsible for not notifying the Fire Department.

Thomas J. Maloney, Chief, Jersey City, N. J.: Our Water Supply Department is one of the finest in the State, and is self-sustaining financially. It is under the supervision of Chief Engineer Harold Ohland, a man with over thirty years' experience in this field. During a survey conducted by the National Board of Fire Underwriters in 1951, this department received great credit for the efficient manner in which this system is maintained.

As to the use of these hydrants, other divisions of the municipality such as the Street Cleaning Department may fill their tank wagons from these hydrants; otherwise a permit from the Chief Engineer must be obtained for any other person to open a fire hydrant. All hydrants and other equipment are purchased by the Water Department. All repairs, inspections and maintenance are made by Water Department employees. The placing of hydrants is recommended by me, and I approve all new installations.

H. A. Smith, Chief, Honolulu, T. H.: Fire hydrants in our city are used by the Road, Garbage and Sewer, Departments, the Shade Tree Commission and various others.

HERE ARE THE QUESTIONS

1. **Have you been able to limit the use of fire hydrants in your city to the fire department only?**
2. **If not, what other city departments commonly use the fire hydrants?**
3. **If other than municipal departments use the fire hydrants, who are they?**
4. **Who purchases the fire hydrants: (a) the water department, (b) the fire department?**
5. **Who maintains fire hydrants?**
6. **If repairs are required, who makes them?**
7. **Who determines where fire hydrants are to be placed?**
8. **Who inspects fire hydrants?**

Practically any contractor who will pay for the installation of a meter and the cost of water consumed is allowed to use them also.

The Board of Water Supply purchases, maintains and repairs hydrants, and after consulting with the Fire Department, determines where they are to be placed.

The Board of Water Supply also inspects hydrants. This department submits a weekly report of the hydrants used and a man from the Board of Water Supply checks immediately after receipt of such report. If in using a hydrant we find it not in first class condition, our Fire Alarm Bureau is immediately notified by radio and the Alarm Bureau immediately notifies the Board of Water Supply who in turn, makes repairs without delay. Our Board of Water Supply is most efficient and cooperative.

Edward Gall, Sr., Chief, Mount Vernon, N. Y.: Fire hydrants in this city are not limited to Fire Department use only. They are used by the Department of Public Works.

The Water Department purchases, maintains and makes the necessary repairs to hydrants. The location of fire hydrants is determined by both the Water and Fire Departments.

Inspection of fire hydrants is also made by the Water Department.

T. C. Turner, Chief, Columbus, Ga.: Hydrants are used by the Department of Public Works.

The Water Department purchases them. The Fire Department makes minor repairs while the Water Department makes major repairs.

Both departments determine where hydrants are to be placed. The Fire Department makes inspections.

R. E. Garnett, Chief, Cheyenne, Wyo.: We have not been able to limit the use of fire hydrants. They are used by the Street and Alley and the Water Departments.

The Water Department purchases, maintains, repairs and determines where hydrants are to be placed. The Fire Department makes inspections.

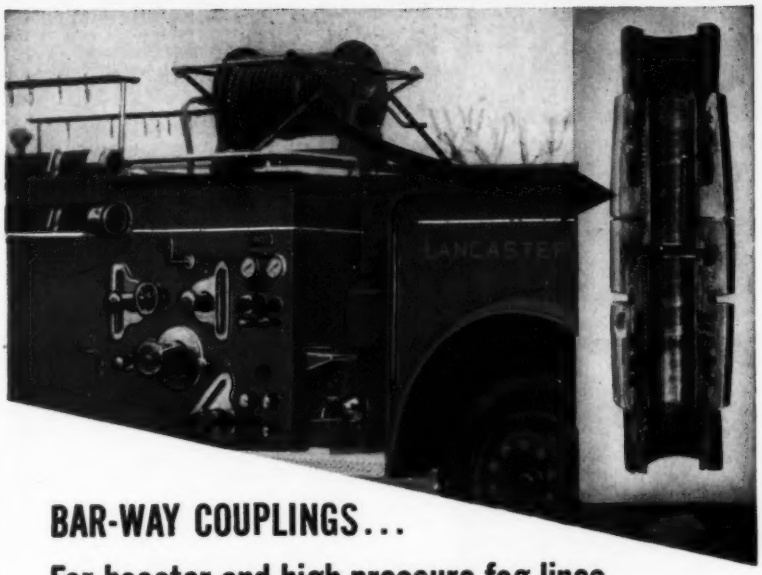
Harris Hancock, Chief, Lawton, Okla.: We have not been able to limit the use of hydrants to the Fire Department only. The Street Department and various contractors also are allowed to use them.

The Water Department purchases, maintains and repairs the hydrants. The Fire Chief and the City Engineer determine where new hydrants are to be located. Both the Fire Department and the Water Department make inspections.

Frank Briers, Chief, Victoria, B. C.: Fire hydrants are also used by the Water Department. The Water Department purchases, maintains, repairs, and inspects hydrants, but the Fire Department determines where they are to be placed.

Charles L. Slade, Chief, Des Moines, Ia.: The Street Department also uses fire hydrants for street flushing.

The Water Company purchases, repairs and maintains the hydrants. Normally the Water Company determines where the hydrants are to be placed. However, they give splendid cooperation when requested by the Fire Department to place hydrants in certain sections, such as hazardous locations. In fact, we are always consulted when hydrants are placed in



BAR-WAY COUPLINGS...

For booster and high pressure fog lines

There are four good reasons why the fire fighters specify BAR-WAY couplings. Four reasons why BAR-WAY couplings are growing in favour with firemen, hydraulic engineers and others who insist on the best.

- **SAFETY**—The coupling becomes the *strongest part of the hose line.* Tested to 3000 pounds pressure and 500 pounds pull.
- **FULL FLOW**—No suppression of flow in coupling. No shrinkage of hose at coupling.
- **FLEXIBILITY**—Reels smoother. Easily replaced. Nothing to catch on corners or underbrush.
- **BETTER MADE**—Accurately machined, always the same, interchangeable. WILL NOT FAIL.

Send for our free pamphlet. Gives detailed specifications for all types of pressure hose, ID and OD.

BAR-WAY MFG. CO., STAMFORD, CONN.

WEST COAST REPRESENTATIVE { W. D. BIGDON, 383 Bessom Street, San Francisco 7, Calif.

WATER when and where you want it!

with **HARODIKES**

Portable Canvas Water Tanks

THE ECONOMICAL AND EFFICIENT WAY TO CARRY AND STORE WATER.

ON THE JOB - ON THE SPOT
KEEPING AMERICA GREEN

EXCLUSIVE FEATURES

- Self Supporting
- Ideal for Relay Pumping
- Easily Back-packed
- Easily Transported

Available in 150 & 300 gallon sizes

A WATER SUPPLY AT THE SCENE OF THE FIRE

Write TODAY for Full Information and Price List

HARODIKES INCORPORATED
NORTH DIGHTON, MASSACHUSETTS

places other than on intersections.

The Water Company keeps a man in each district the year round to inspect and in cold weather to pump hydrants dry after being used by the Fire Department.

Michael H. Lotz, Chief Engineer, Baltimore, Md.: We have not been able to limit the use of fire hydrants to the Fire Department only. They are used by the Bureau of Sanitation and the Bureau of Sewers. Private contractors are allowed to use them under certain conditions, for which a permit must be obtained from the Bureau of Water Supply.

The Bureau of Water Supply purchases, maintains and repairs hydrants. They comply with the recommendations of the Fire Department in placing hydrants, whenever possible.

Twice yearly, Spring and Fall, the Fire Department makes inspections of all hydrants. They also do so during severe freezing weather.

George L. Gettings, Chief, Brookline, Mass.: In general, we are able to limit the use of fire hydrants to the Fire Department only, but occasionally, a contractor is given permission to use them.

The Water Department of our town is very cooperative and maintains our hydrants in very good condition at all times.

During the Summer they paint all hydrants. New hydrants are installed as designated by the Fire Department. The Water Department is notified of all hydrants opened during winter months so they may inspect these hydrants to make sure no water remains in the barel to freeze.

C. S. Canady, Chief, High Point, N. C.: We have not been able to limit the use of fire hydrants to the Fire Department. Both the Department of Public Works and the Department of Public Utilities also use them.

The Department of Public Utilities purchases and, maintains the hydrants. The Fire Department makes minor repairs, while the Department of Public Utilities makes all major repairs. Both departments determine where the hydrants are to be placed.

The Fire Department makes inspections.

R. C. McRonald, Chief, London, Ont.: The City Engineer's Department is allowed to use our fire hydrants for street flushing and other work. Contractors in large tank installations are given permission to use them also, but they pay a flat rate to the Public Utilities Commission for water.

The Public Utilities Commission, of which the Water Department is a part, purchases, maintains, repairs and inspects these hydrants. The Fire Chief, along with a representative of the Public Utilities Commission, determines where hydrants are to be placed.

We rent the fire hydrants from the Public Utilities at $18 each per year, and they look after all repairs, maintenance, pumping out, etc.

John Gallagher, Chief, Huntington, W. Va.: We have not been able to limit the use of hydrants to the Fire Department only, but are planning to do so. At the present time, hydrants are used by the Street Department. No one else may use them without getting permission from the Water Department.

The Water Company, which is a private organization, purchases, maintains and repairs all hydrants. In determining where hydrants are to be placed, the Water Company always calls in the Fire Chief.

The Water Company tries to make an inspection of all the plugs, which they were able to do in 1953.

C. C. Styron, Chief, Atlanta, Ga.: In addition to the Fire Department, our fire hydrants are used by the Water, Sanitary, Construction and Parks Departments.

The Water Department purchases,

George E. Cron Photo

Picture of destruction following crash of an F-80 Shooting Star Jet Plane into the Lone Star Boat Manufacturing Company plant in Grand Prairie, Texas, on Feb. 2, 1954. Two employees of the factory were killed. Pilot pulled the ejector lever of the seat of the plane and was thrown some 60 feet from point of crash but miraculously survived. Fire loss to plant, $10,000. J. C. Swadley, Jr., is Fire Chief at Grand Prairie.

BRAXMAR

GREATEST NAME IN

BADGES

SERVING THE FIRE FIELD

Since 1879

Firemen the world over rely on Braxmar for the finest badges money can buy. We offer the widest possible selection in nickel, chrome plate, sterling silver, gold plate, rolled gold and solid gold; all of our badges and insignia are the work of experts with a lifetime of service.

Write for latest catalog and price list.

Dealer inquiries invited.

C. G. BRAXMAR CO., Inc.

JOHN O. VEIT, *President* — JOHN O. VEIT, JR., *Secretary-Treasurer*

216 E. 45th Street, New York 17, N. Y.

maintains and repairs all hydrants, and together with the Fire Department, determines where new ones are to be placed. The Fire Department makes inspections.

L. L. Williams, Chief, Richmond, Ind.: We have not been able to limit the use of fire hydrants exclusively to the Fire Department. The Street Department also uses them.

The Water Company purchases, maintains and repairs all hydrants. The Chief of the Fire Department determines where hydrants are to be placed. Both the Water Company and the Fire Chief makes inspections.

E. W. Fields, Chief, Omaha, Neb.: We have not been able to limit the use of fire hydrants to the Fire Department. They are also used by the Street Department and the Engineering Department.

In general, none other than the municipal departments use them, but special permission has been granted to contractors on occasion.

The Metropolitan Utilities District is a local government sub-division set up by the State Legislature. It furnishes water and gas to the people of Omaha. They have complete charge of fire hydrants including service and installation. They have the power to levy up to .06 mill taxes for maintenance of hydrants. They cooperate very well with us on installation of new hydrants and maintenance of the system.

Karl Evans, Chief, Reno, Nev.: We have not been able to limit the use of hydrants to the Fire Department. The Street Department use them to fill their flusher tanks. By special permit obtained from the Fire Department, contractors doing municipal work are allowed to use them, but all equipment used on them must be inspected.

The Fire Department purchases the hydrants. They are maintained and repaired by the Fire Department, assisted by the Sierra Pacific Power Company who supplies the municipal water service at the expense of the city. The Fire Department determines where hydrants are to be placed and also makes inspections.

Edgar M. Grass, Chief, Kansas City, Mo.: The use of fire hydrants is not limited to the Fire Department. The Street Cleaning, Park and Public Works Departments also use them.

The Water Department purchases all hydrants. The Pipe Line Division of that department maintain, repairs and inspects them. The Engineering Division of the Water Department determines where hydrants are to be located.

W. J. Lewis, Chief, Norfolk, Va.: In addition to the Fire Department, fire hydrants are used by such municipal departments as the Water, Sewerage and Street Cleaning Departments.

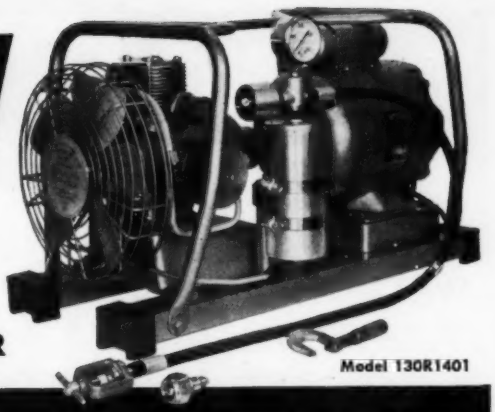
The Water Department purchases, repairs and maintains the hydrants, while the Fire Department makes inspections. The Chief of the Fire Department determines where the hydrants are to be placed.

Charles Sensmeier, Chief, Evansville, Ind.: Besides the Fire Department, fire hydrants are used by the Board of Works for use in sprinkling streets.

The Water Department purchases, repairs maintains and inspects all hydrants. The Chief of the Fire Department determines where hydrants are to be located.

NEW

PORTABLE HIGH PRESSURE AIR COMPRESSOR



Model 130R1401

FOR CHARGING DEMAND TYPE RESPIRATOR TANKS

The Cornelius Air Compressor is especially designed to compress pure, clean air into storage tanks used with demand type breathing apparatus. Capacity, 2 CFM. Pressures to 3000 PSI. Entire assembly ready to operate, including 1 H.P. heavy-duty AC electric motor, oil filter and moisture separator, and self re-sealing relief valve, weighs only 79 pounds. Don't be caught short of compressed air supply. The Cornelius Air Compressor will provide maximum protection and pay for itself in a short time.

Cornelius
PORTABLE AIR COMPRESSORS

WRITE FOR PRODUCT SHEET NO. 6

We invite your inquiry and shall be pleased to send you complete details.

THE CORNELIUS COMPANY
556 39th Ave., N.E. • Minneapolis 21, Minn.

Free

YOUR COPY OF THE NEW 1954 GLOBE FIREMEN'S SUIT CATALOG

GLOBE MANUFACTURING COMPANY
Pittsfield, N.H.

Send For Your Catalog Today!

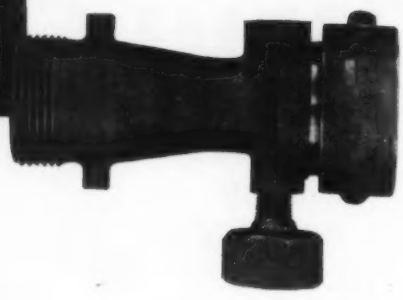
Please send me a copy of your NEW 1954 Firemen's Suit Catalog.

Name _____

Address _____

City _____ State _____

McFARLAND



IN-LINE PROPORTIONER for WETTER WATER FIRE FIGHTING

The McFarland In-Line Proportioner can be installed on fire trucks, in fixed systems, or in any fire-fighting line.

Unox is siphoned from its own container through the pick-up tube to make either a 1% or 2% solution of Wetter Water. Premixing is eliminated. It is not necessary to put Unox in truck tanks nor run it through the pumps.

And with a Unox Emulsion Maker Nozzle on the line you have the most efficient fire equipment available today for Class A and B fires.

The In-Line Proportioner has a fixed orifice to produce 1% or 2% Wetter Water. Specify percentage solution desired when ordering. It is available in 1", 1½" and 2½" sizes — others available on special order.

THE UNOX COMPANY

1630 ROBERTS ST. • HOUSTON 3, TEXAS

A Division of McFARLAND MANUFACTURING CORPORATION

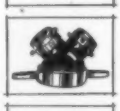
EASTMAN *Products You Can Depend on—Always!*

SERVING THE FIELD OVER 100 YEARS

Double male connections furnished with ear lugs, as shown, or with pin lugs. Larger sizes furnished with long handles.

Double female connections all furnished with rollers, as illustrated, available in the same forms as double males.

Hydrant or pumping unit Wye, furnished as illustrated, all threads recessed with Higbee form cut.



Caps furnished in all sizes, with or without chain connection.

Angle elbow eliminates crimping of hose at the pump and allows full stream capacity.

Plain Siamese or Wye, can be furnished with one female inlet and two male outlets, or with two female inlets and one male outlet.

Screw stem type gates, including a 2½" quarter turn gate valve, for the absolute stoppage of water.

Our unmatched Eastman Deluge Gun, available in two-, three- or four-way models. Can be used as either a portable or permanent gun.

OUR PURPOSE—To provide the fire service with only the highest quality brass goods it is humanly possible to produce at a fair price—to provide the fire service with the means of delivering the most effective fire streams the field has ever known—this is both our purpose and pledge to the service. Over the years our products have attained a high standard of excellence—which will be our purpose to maintain.

OUR PROPOSITION—We will gladly ship sample outfits at our expense on 30 days' trial anywhere in the United States, subject to any test desired. If the product does not come up to our claims in every particular, you can notify us and hold shipment subject to an order. If we can accomplish what we claim you certainly should not be without the product—if we cannot it costs you nothing.

SAMUEL EASTMAN CO., INC.

CONCORD, NEW HAMPSHIRE

Are We Sitting Ducks for the Integrationists?

(*Continued from page 398*)

ployes' time." We firemen must recognize one salient point. If we appear as sitting ducks we can expect someone to take a pot shot!

This is one reason for some unpopular fire department regulations designed to eliminate chairs in front of fire stations and other forms of relaxation which the public (as well as cartoonists) often misinterpret.

It appears that the dime novel, pinochle deck and easy chair pursuit of happiness in the fire service are attaining obsolesence.

We small towners had better be realistic about it lest we become integrated! Perhaps we should take stock of our own departments, of ourselves. Are we inviting integration, or can we honestly defend ourselves against it?

No one can blame officials for attempting to effect economies, which the combining of departments suggests, though may not actually produce. Nor can we argue too hard that a fireman's time is his own between runs; though there are times when rest and relaxation are justifiably essential.

Nor can we condem the opinions of those who appear to be quite well satisfied with their own integrated police and fire organizations. Of course we don't hear from those where the plan has failed . . . and there are such.

Many in the fire service will take issue with the statement that firemen and policemen can be overtrained; that specialization, except for a relatively few positions, in a department is inefficient and not in the public interest. In fact, it would appear that the opposite is true insofar as a small fire organization is concerned. Men should be thoroughly trained in the operation of apparatus and pumps; they certainly can be trained to make hazard inspections, to assist in getting out fire prevention notices, to participate in company inspection work, hydrant surveys, pre-fire planning studies and in dwelling inspection work in good weather, and with proper communications equipment provided. Today's small fire department must be well balanced; trained, constantly trained, if it is to cope with today's problem of fire control and fire prevention. Should not inspection of factory, store, farm and home, for hazard elimination and for pre-planning, be the stock and trade of a fireman's profession, along with fire control responsibilities?

For those departments who shall permit themselves to be identified as sitting ducks, there's a potential threat from the integrationists and a passive public who will be "sold" on a siamese twin public safety service. There's a way to beat the rap, however, if one is interested.

A fire prevention program utilizing all department personnel on company inspection work, company and combined drills, mutual aid practices (not just paper work, but planned, frequent exercises and planned, printed running cards) will keep you so busy there won't be time for integration and your own public and your officials will be able to appreciate **why.**

You who are participating in such work are too busy for integration, too busy to be policemen even for an hour; and you who are planning your department operations around vigorous, con-

tinuous training, fire control, fire prevention and mutual aid operations will likewise have more than you can do with one-half of your community's public safety problems to deal with—and a big half at that!

If you and I know that the fire service is a full time job in our respective communities, and it IS, then let's make it that. Let's show our public, sell our public, make our public and our officials realize—by our performance—that our fire departments and our firemen are not organizations of sitting ducks, but organizations dedicated to and with ambition for community safety service on a level certainly equal to, if not exceeding, that of other municipal services.

Performance leaves no loopholes for integrated public safety services.

Dobbin Still King

(*Continued from page* 409)

The city has three fire stations with modern fire-fighting equipment but the only vehicle capable of surmounting the obstacles of a heavy snowfall is the snowmobile and it is too light to carry enough equipment for big fires.

The department has discovered that pulling ladder sleighs, hose sleighs and pump sleighs is a job that must be left up to old Dobbin. Horses can get to a fire through snow quicker than any vehicle and when summer comes they are justified in knowing they have earned their vacation.—JOHN C. CRAIG.

I.A.F.C. Exhibits to Feature 1954 Houston Conclave

Chief Clyde Canning, Midvale, Utah, chairman of the Exhibit Committee of the International Association of Fire Chiefs, reports that as of April 16th last, all but six of the exhibit spaces for the 1954 International Convention in Houston have been signed up. According to Chief Canning, this is the most enthusiastic advance reservation his Committee has encountered in many years.

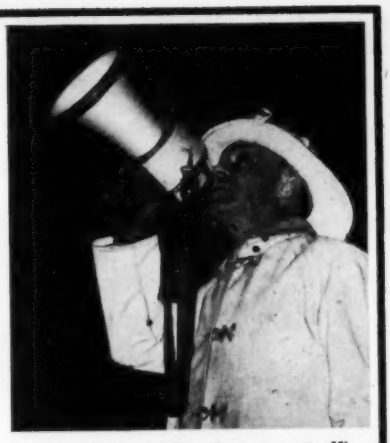
Here is the list as of April 16.

Mack Motor Truck Corp.
Elkhart Brass Manufacturing Co., Inc.
F. N. McIntire Brass Works, Inc.
Superior American Fire Alarm Co.
The Sireno Company, Inc.
Homelite Corporation
Stephenson Corporation
The Circul-Air Corporation
E & J Manufacturing Co.
Federal Sign & Signal Corp.
Waterous Company
Wooster Brass Company
Fyr-Fyter Co.
American-Marsh Pumps, Inc.
Akron Brass Mfg. Company, Inc.
Mine Safety Appliances Co.
E. M. Bloomberg & Co., Inc.
Fabric Fire Hose Company
Peter Pirsch & Sons Co.
Scott Aviation Corp.
American District Telegraph Co.
The American City Magazine
Hale Fire Pump Co.
Kohler Co.
Fulton Bag & Cotton Mills
Bi-Lateral Fire Hose Co.
Metcalf Bros. Co., Inc.
McCulloch Motors Corp.
De-Lux Neon Mfg. Co.
Clifford B. Hannay & Sons, Inc.
The Four Wheel Drive Auto Co.
General Electric Co.
FIRE ENGINEERING
The Leece-Neville Company
Cardox Corporation
Dictaphone Corporation
Notifier Manufacturing Company
Motorola, Inc.
M. A. Sterner Company, Inc.
E. I. du Pont de Nemours & Company
The Gamewell Company
Rockwood Sprinkler Company
Atlas Safety Equipment Company, Inc.

Project your voice up to ¼ mile

STEWART WARNER

Power Megaphone



For the chief and fire department officer — and for handling emergencies, STEWART-WARNER Power Megaphone provides quick clear projection of voice up to ¼ mile.

- Completely portable
- Entirely self-contained
- Uses six ordinary flashlight batteries
- Horn diameter—8½ in.
- Instant trigger action; no warm up required
- Weight—5 lbs. 5 ozs.
- Long battery life
- Range (depending on noise)—tested up to ¼ mile
- Approved for F.C.D.A. Matching Funds

Write for name of your nearest sales representative.

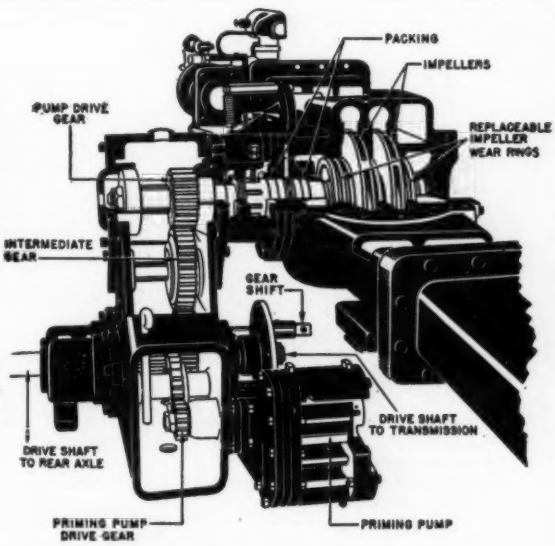
STEWART-WARNER ELECTRIC

1826 West Diversey Parkway, Chicago 14, Illinois

STEWART SW WARNER

● *Right*—Cut-away view from right side of HALE Type ZL 2-stage 500 GPM Centrifugal Pump. The "ZL" Series fills a large demand for use in fighting fire with the popular 2-ton commercial truck, or fire chassis.

● Write today for up-to-date Bulletins on HALE Fire Pumps—they are built in all STANDARD CAPACITIES.



For Dependability Plus Efficiency

Specify HALE

HALE FIRE PUMP COMPANY

CONSHOHOCKEN, PA.

McINTIRE GATE VALVES

Fig. 164AN

4½" swivel female x two 2½" male Gated Siamese. Quick opening, ¼ turn valves.

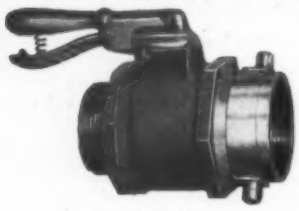


Fig. 163

Made either Right Hand or Left Hand 2½" male x female, gate valve.

F. N. McINTIRE BRASS WORKS

377 PUTNAM AVE., CAMBRIDGE 39, MASS.

1837 - - - - - - - - 1954

INSIST ON THE FINEST!

WENTWORTH

"HEAD-MASTER"

- FINEST QUALITY
- PERFECT COMFORT
- FAST SERVICE
- MODERN STYLING
- BEST WORKMANSHIP

INSIST ON

"HEAD-MASTER"

UNIFORM CAPS

When ordering from your local uniform or fire equipment dealer.

Write today for our illustrated fire-fighters' uniform cap circular.

Manufactured only by

WENTWORTH-FORMAN CO., INC.

21 Edinboro Street, Boston 11, Mass.

Established 1895

With Our Readers

Ventilation Procedures

To the Editor:

I am a new subscriber to your magazine FIRE ENGINEERING and have been very pleased and impressed by the technical competence of your writers.

It is with particular pleasure that I commend to your attention Mr. Roi B. Wooley. Recently he has been of assistance to us, and his technical competence and wide-awakeness are readily apparent.

The series that Mr. Wooley is presently having published in FIRE ENGINEERING is one of the most complete analyses that I have ever seen of this very intricate procedure of ventilation.

I want to assure you that FIRE ENGINEERING will be on our safety team here for a long, long time.

Sincerely yours,
JOHN J. DUNLEAVY, JR.
National Safety Service Co.
New York, N.Y.
Mar. 25, 1954

Hydraulic Research

To the Editor:

I would like to take this opportunity to thank you for your assistance and cooperation in the special hydraulic research project to which Commander Morton and I were assigned by the Chief of the Bureau of Ships. The guidance given Commander Morton is greatly appreciated and was considerably helpful in obtaining vital information which was essential to this project. As the result, considerable information was compiled and considered in design changes, operating instructions and safety precautions which will increase the dependability and safety of hydraulic machinery.

The cooperation and assistance rendered by you has contributed greatly in helping the Bureau of Ships maintain a high standard of safety afloat.

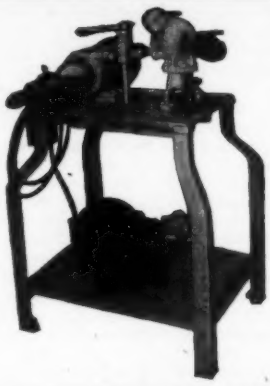
B. F. BENNETT
Capt. USN
Special Project Officer
Dept. of The Navy
Bureau of Ships
Washington, D.C.
Feb. 9, 1954

Vamp, Confessed Firebug, Sets $300,000 Blazes

Edwin (Wimpy) Meier, a volunteer fireman who succumbed to an "urge" to start fires, was jailed April 9th in Anchorage, Alaska, on charges of having caused a dozen blazes that resulted in damages amounting to more than $300,000.

Meier, 20, in a signed statement said, "I knew when I set those fires it was wrong, but all of a sudden an urge comes over me. . . ." He was at liberty under $5,000 bond following arraignment in U.S. commissioner's court, Anchorage, on charges of arson involving the most costly blaze, that of the Auditorium.

Meier was questioned by fire and police officials after being taken into custody, following a house fire on April 9th, for which he reported the alarm. He was trapped when firemen, with



IN ANY FIRE STATION

LARGE OR SMALL . . .

DAYTON HYDRAULIC EXPANDER

MEANS BETTER HOSE CARE

Expands Couplings from ¾" to 6" Size
Tests Hose Up to 700 Lbs.

Extra Attachment Removes Expansion Rings from Old Hose
More Pressure — Larger Motor — Roomier Work Table

Regardless of the size of your department, there is an Expander for your requirements.

Send for Illustrated Bulletin

Dayton Fire Equipment Co.

1242-48 W. 2nd St., Dayton 7, Ohio

BADGES by Everson-Ross

Your choice of thousands of designs.

• • •

You are assured of excellent workmanship.

• • •

You are welcome to our new folder.

EVERSON-ROSS, Inc.
88 CHAMBERS ST., NEW YORK 7, N.Y.

whom he responded, found that the set blazes had been discovered and extinguished in time to preserve the evidence by a passing motorist, himself a former Port Richardson fireman.

—Major Norris T. Morton

Youthful Rangers Fight Brush and Grass Fires

When Larchmont, N. Y., firemen responded to a brush fire recently, they found a young man on a bicycle with an Indian Fire Pump on his back had beat them to the scene. He was 16-year-old Charles Fitch, president of Mamaroneck Rangers, a teen-age group of boys interested in fire control and conservation. Charles pitched in and helped the firemen extinguish the blaze before it did any damage.

Charles Fitch, president of Mamaroneck Rangers.

The Rangers are divided into three districts and depend primarily upon back-pack pumps in their fire fighting work. Their efforts have received praise from professional firemen.

Young Fitch says that prior to obtaining their present pumps, they used "burlap and rakes to fight brush fires, and addition of the pumps has increased their efficiency 1000 per cent."

Canadian Underwriters Issue Approved List

Distribution has commenced on the latest List of Inspected Appliances, Equipment, and Materials, published annually by Underwriters' Laboratories of Canada. The List is dated September, 1953, and supersedes the 1952 edition with the March, 1953, Supplement thereto.

The present List, which has 172 pages compared to 152 in 1952, contains 537 Listings (467 in 1952) of products which have been examined and tested as to their life, fire, and casualty hazards, and crime prevention.

Underwriters' Laboratories of Canada is a non-profit organization sponsored by the Dominion Board of Insurance Underwriters.

Copies of the List are distributed free of charge to a current mailing list of 9,000 which includes federal, provincial, municipal, and insurance inspection authorities throughout Canada. New requests for copies should be addressed to the Head Office at 340 Richmond St. West, Toronto 2B, Ontario.

Better Hose Care--- with CIRCUL-AIR

Circul-Air Dryers have passed the Approvals Tests and are listed by the Underwriter's Laboratories, Inc., Chicago, and the Canadian Standards Association.

PATENTED

THE AIR CONDITIONING FIRE HOSE DRYER

Circul-Air is the patented, electrically operated hose dryer which circulates prewarmed fresh air through coiled wet hose at the rate of 5 to 6 air changes per minute. It's designed to lengthen hose life, improve the appearance and functional design of new fire houses, and to save floor space and hard work. NO OTHER DRYING METHOD IS SO FAST—SO ECONOMICAL—SO EASY TO USE.

ACCEPTED • APPROVED • RECOMMENDED

ACCEPTED as the standard drying medium in over 1500 fire departments — APPROVED by the leading testing laboratories — RECOMMENDED by fire hose manufacturers and Fire Chiefs "all over America."

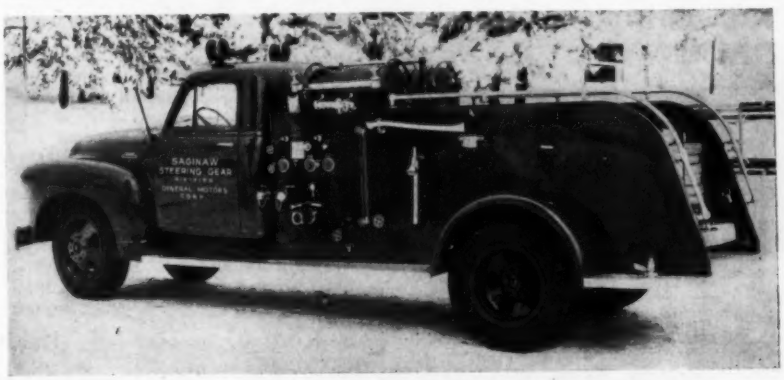
If you are building, send for free copy of "Fire Station Design"

NEW HOSE DRYING MANUAL TELLS HOW TO DRY, STORE AND CONSERVE FIRE HOSE

May we send you one?

THE CIRCUL-AIR CORPORATION

575 East Milwaukee Detroit 2, Michigan



The "SAGINAW"

TWO STAGE SERIES PARALLEL CENTRIFUGAL PUMP

Rated at 300 GPM (actually 450 from hydrant) for volume solid stream

100 GPM at 600# for High Pressure Water Fog

FOAM - FOG FOAM - VOLUME - WETTING AGENT

Write for Specifications

BUILT BY

The BLITZ BUGGY COMPANY

OLD FORGE, N. Y.

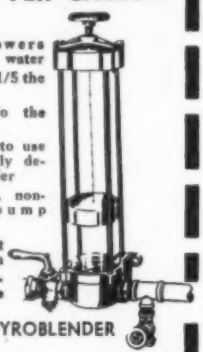
NON-CORROSIVE

PYRODYNE

MULTI-PHASE WET WATER

ONLY 2/3¢ PER GALLON

- PYRODYNE lowers surface tension of water
- puts out fires in 1/5 the time
- makes quarts do the work of gallons
- simple and easy to use with our specially designed Pyroblender
- no tank needed, non-corrosive, no pump damage
- neutral, does not discolor or stain
- automatic operation, one valve control



PYROBLENDER

CALL or WRITE us for our free booklet, "Wet Water for Fire Fighting"

See our classified ad page 450.

AQUADYNE CORPORATION

441 Lexington Ave., New York 17, N.Y.
Telephone: VAnderbilt 6-2750

The Fireman's Choice

Powerful Light

When he needs it—where he needs it

Big Beam

PORTABLE ELECTRIC HAND LAMPS

Model 700-A 2000-foot beam

Most powerful, heavy-duty hand lamp of its size. Adjustable 6-inch head. Operates on four standard No. 6 dry cells.

Model 211 1500-foot beam

Popular price, light weight, easy to carry. Adjustable 5-inch head. Holds two standard 6-volt lantern batteries. Operates on one; other is a spare.

Write for folder on complete information on these and other Big Beam dry-cell and storage-battery models.

U-C LITE MANUFACTURING CO.

1041 West Hubbard St., Chicago 22, Illinois
In Canada: Bernard Marks & Co., Ltd.,
459 Church St., Toronto 5, Ontario.

Army Fire Losses Down

Fire losses of $1,980,976 at Army installations in the continental United States in fiscal year 1953 were the lowest since the end of World War II, according to final figures compiled by the Chief of Engineers.

The total compares with $3,831,564 in the previous fiscal year, and an average annual loss of $4,747,748 in the seven year postwar period 1946-1952.

The substantial reduction is attributed by the Chief of Engineers to a continuing program of installing automatic sprinklers, automatic fire alarm equipment, training of military and civilian personnel in fire consciousness, methods of reporting fires, and periodic fire prevention inspections by qualified personnel.

The Chief of Engineers is responsible for staff supervision of fire prevention and fire fighting activities at all Army installations.

In terms of both frequency and monetary loss, careless use and disposal of smoking materials and matches was the leading cause of fire. It accounted for one-quarter of all the fires in 1953 fiscal year.

Memphis 4-Alarmer Wrecks Casket Plant

A flash fire originating in a ventilating stack over a paint shop of the block-long Major Casket Co., and Sterling Casket Co. building at 1 Vance Street between Vance and Talbot, Memphis, Tenn., destroyed the wood and metal structure and threatened adjoining property before it was controlled by 21 fire fighting units and their crews, answering the four-alarms.

The fire was discovered by the son of the proprietor, Leslie G. Gruber, who called his father, Paul F. Gruber, to notify the fire department. This call was received at the fire alarm office at 2:11 P.M., April 3, 1954. Additional alarms were sounded at 2:13, 2:14 and 2:38 P.M., bringing a large complement of fire fighters to the scene, located along the railroad tracks on the banks of the Mississippi River.

The fast spreading blaze gave off a heavy column of smoke that drifted high in the air across the River, bringing crowds of the curious to the scene, and necessitating the calling of extra police.

The factory workers, 25 in number at the time of the blaze, hurried from the plant, which was quickly involved in flames. Sweating, soot-covered firemen, led by Fire Chief John Klinck, fought the fire with hand lines and deck pipes, some of them employing heavy duty fog nozzles, to prevent its extension to large trucks in a parking lot and to the plant of the Oliver-Finnie Co., across the railroad. At times they had to wet down some of their own apparatus taking water near the burning building, to keep it from igniting.

Fire Chief Klinck was injured when a nail pierced his rubber boot. Deputy Chief J. D. Johnson was blown off a ramp when flames suddenly flared through a doorway. Both the chiefs remained on the job, however. One fireman, Lieutenant M. D. Baxter of Company 88, was taken to the hospital for treatment of another foot injury.

The Major Casket Co. stamps out metal caskets for shipment to 14 states, and the Sterling Casket Co. manufactures wood caskets. Both firms were owned by the Grubers and employed about 40 workers.

Firemen suffered from the heat of the fire and the day's temperature of 83 degrees. Property loss was estimated by the owners at $200,000. The fire was under control by 3:00 P.M.

Montgomery, Ill., Progresses in Communications

Back in 1951, FIRE ENGINEERING published a report about an alarm system used by the little town of Montgomery, Ill.

Since that time many changes have taken place in Montgomery which may be of interest to volunteer firemen readers of this Journal.

Three years ago the Montgomery Fire Department was handling the rural fire protection by means of insurance riders. This was anything but satisfactory, according to C. M. Gaylord, Chief of the organization.

Because of this unsatisfactory arrangement, a fire district was voted, which gave the fire department a five mile area and a guaranteed financial income to help maintain the organization.

With the added responsibility, the volunteers naturally had to have more equipment. With the help of Federal matching funds, the volunteers were able

General view of four-alarm fire which destroyed a casket plant at Memphis, Tenn.

to purchase a high pressure unit, which carries 800 gallons of water, along with the necessary accessories.

This gave the volunteers two pieces of apparatus with which to cover the fire district. But they were not satisfied. They still felt the need of another unit to carry emergency facilities. They therefore purchased a second-hand panel truck with their own funds and this they painted, lettered, equipped and donated to the Fire District.

But they still were not through. The next step was to install two-way radio, with their own base station. This gives them complete and immediate contact with all other fire protection units in the county.

In 1951, the Montgomery Fire Department had a 10th classification. Under the new set-up,—the District is now named "Montgomery & Countryside Fire Protection Districts—it enjoys Class "A" status.

Reports Chief Gaylord: "this success has been attained only by the complete cooperation and hard work of all firemen and the fire commissioners. As a result," he adds, "we have gained the thanks and high respect of all the taxpayers of the district. Each fireman has an assigned responsibility in regard to equipment, to maintain the high standard of the department. Regular fire hazard inspections are made by the firemen of all industrial and public buildings, thus keeping everyone in the department fire-minded and maintaining public interest in the organization."

Novel Relay Demonstrated at British Fire Service College

Novel techniques in water relaying were demonstrated at the Fire Service College, Wotton House, near Dorking, England last Fall during a series of five-day courses for chief fire officers and firemasters in the United Kingdom, at which problems arising from emergency fire-fighting were discussed. With four men, (two pump men, driver, mate), a line of 6-in. diameter canvas hose was laid by the prototype "emergency pattern" hose laying appliance carrying a mile of hose. After the hose had been joined to a pre-laid polythene plastic pipe line, water was pumped from one of the new 1,000-g.p.m. pumping appliances to discharge into a lightweight fibre glass tank. From this, three light portable pumps took water to supply 12 75-ft. hose lines terminating in light alloy branches having ¾-in. nozzles. It was estimated that 900 g.p.m. of water were being passed along the quarter-mile line of hose and piping.

The whole operation was completed in under four minutes and 12 good streams resulted. The hose layer worked at about 15 m.p.h. for the demonstration, but it is capable of operating at up to 30 m.p.h. The 6-in. diameter hose carried on the appliance will have eventually light alloy couplings of the same type as is used to connect the polythene pipes together. *From "Fire Protection Review," G. F. D. Pratt, Editor.*

New York Asks for More Firemen

Fire Commissioner Edward F. Cavanaugh, Jr., on April 21, 1954, called for appointment of another 1,000 men for the New York City Fire Department, pointing out the force was 400 under its authorized strength of 11,500.

New! AUDIO HAILER

WORLD'S MOST POWERFUL All-in-One POWER MEGAPHONE

NOW IT'S AUDIO HAILER for long-range hailing with the POWER and CLARITY you need to be HEARD and UNDERSTOOD above noise and wind at great distances. Rugged, weatherproof, quality construction by AUDIO—originators of the Power Megaphone, suppliers to the U. S. Navy. *FREE literature.*

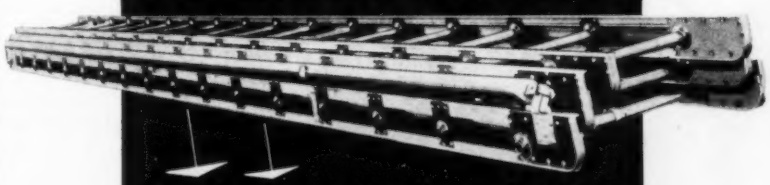
- ONE *Self-contained* UNIT...NO CABLES! LIGHTWEIGHT...ONE-HAND OPERATION.
- 16 TIMES MORE POWERFUL THAN ANY OTHER PORTABLE POWER MEGAPHONE!
- EXCLUSIVE! VACUUM-TUBE AMPLIFICATION.
- LONG BATTERY LIFE: OVER 5,000 TEN-SECOND MESSAGES!

DEALER INQUIRIES INVITED

AUDIO HAILER

AUDIO EQUIPMENT CO., INC.—GREAT NECK, N. Y.

for the best fire ladders
BUY ALUMINUM LADDERS



for the best aluminum ladders
BUY ALCO-LITE

The ideal ladder for fighting fires is one that is lightweight, strong, durable, fireproof, rust-proof, and warp-proof. Aluminum fire ladders have won wide acceptance because they fulfill these requirements.

But not all aluminum ladders are the same. ALCO-LITE Aluminum Ladders incorporate patented features of construction that have never been equalled. That is why we say: for the best fire ladders, buy aluminum ladders—for the best aluminum ladders, buy ALCO-LITE.

Write for folder containing complete information on our line of Light and Heavy Duty Fire Ladders

The Original Manufacturer of Aluminum Ladders

ALCO-LITE ALUMINUM LADDERS
ALUMINUM LADDER COMPANY
200 CARBIS STREET • WORTHINGTON, PENNA.

In Canada:
C. E. HICKEY & SONS Ltd.
Hamilton, Ont.

WHY *Janesville* IS FIRST

CHECK THE FEATURES . . .
that firemen want and get in
JANESVILLE turn out suits.

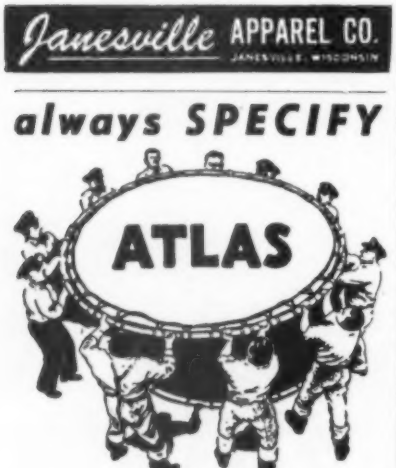
Detachable wool or flannel lining — you get DOUBLE PROTECTION against searing heat...freezing cold . . . rugged wear. And they are easily changed to fit working conditions.

Examine the other details of our fire coats and you'll see why the label JANESVILLE stands for quality, protection, comfort and lasting service.

- Finest Material
- Rugged Construction
- Custom-built . . . coats available in any length wanted. Also sleeve lengths.

Janesville APPAREL CO.
JANESVILLE, WISCONSIN

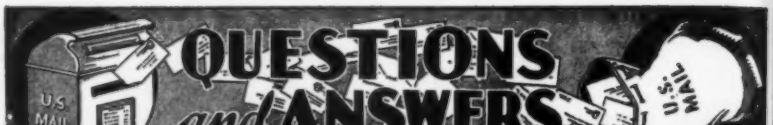
always SPECIFY



the world's best
LIFE NET

in use in thousands of departments—time tried and proven—as the best and fastest means of rescue. All drop-forged hinges, with spring recoil mechanism like that on modern artillery. Specify ATLAS LIFE NETS on all new apparatus!

ATLAS SAFETY EQUIPMENT CO., INC.
27 WARREN ST., NEW YORK 7, N. Y.



Wherein are answered questions relating to current problems in Fire Protection

Using Pumpers in Tandem

To the Editor:

Why and under what conditions would you hook two engines up in tamden at a plug during a fire?

D. A.

Answer: Pumpers are not often employed in tandem. Ordinarily, tandem arrangement of pumpers is employed where it is not possible to place a pumper at a point along the line, to create a relay layout.

For example, suppose a fire department were required to deliver water over an area where no fire apparatus could travel. In this case, the two pumpers would be placed in tandem, and deliver water through the layout to a distant point.

The main purpose of the tandem layout is to give greater engine pressure.

A tandem layout might also be used for pumping up a steep hillside, where a single pumper could not do the job.

One precaution must be observed: The pressure imposed within the pump on the second pumper must not exceed a safe limit. There would be danger of excessive pressure damaging the second pump if it were not designed to handle such pressure.

Pump Pressures for Fog Streams

To the Editor:

What is the best pump pressure per 100 feet of 2½-inch hose using the Quad-Way fog nozzle; also what is the best pump pressure per 100 feet of 1½-inch hose.

We have a 500-gallon pumper and use two 2½-inch and two 1½-inch Quadway nozzles. What is the best pressure to get the best fog on both size nozzles? H. H.

Answer: The table below gives the friction loss per 100 feet of 2½-inch hose when Quad-Way fog nozzles from 1-inch to 2½-inch are operating at the position of maximum flow.

To find the friction loss for lengths of hose greater than 100 feet, we multiply the loss for 100 feet by the number of hundred feet in the line.

Thus, for example, if we are using a 1½-inch nozzle at 100 pounds pressure, the friction loss will be 1 pound per 100 feet. If a line is 1,000 feet long, the friction loss will then be 10 x 1, or 10 pounds.

The engine pressure is equal to the nozzle pressure plus the friction loss in the hose line. If the nozzle pressure is 100 pounds and the friction loss is 10 pounds in that particular line, the engine pressure will be 100 plus 10, or 110 pounds.

As to what pressures are most effective on the Quad-Way fog nozzle, this information should be secured from the manufacturer.

Stream Range from Hand Pumper

To the Editor:

An old hand pumper was brought from Button & Co. in 1855. This machine has two 10-inch cylinders, a 3-inch suction hose and was used with the old fashioned copper-riveted leather hose. Water was pumped from cisterns.

I find in the minute books of the Fire Company who owned this machine that they actually "threw water over the Presbyterian Church spire." The church mentioned has two spires, one 70 feet and the other, according to the painters, 130 feet high. The question is: In your opinion, could it have been possible all conditions favorable, for this machine to have put a stream over the 130-foot steeple.

The cistern from which they pumped water was within 50 feet of the church, so it would not have been necessary to use more than a 50-foot length of hose which, I assume, was the length of the old leather hose. The cistern was, however, perhaps at least 5 feet below the base of the church. D. A. W.

Answer: The hand pumper you describe, bought from Button & Co. in 1855, might well have thrown water over a church steeple 130 feet high, depending upon the pumper's condition and how it was manned.

A similar machine known as "Hay Wagon No. 42," New York City, in 1855 or 1856, was tried out in a competitive demonstration with the steam engine made by A. B. Latta of Cincinnati and in these tests, the hand pumper threw water 189 feet on the first test against the steam engine's 182 feet. The contest for height was also won by the hand pumper which, according to our

QUAD-WAY FOG NOZZLE

Size	Nozzle Pressure	GPM (for angle giving greatest discharge	Friction Loss 100'—2½" Hose	Friction Loss 100'—1½" Hose
1"	100 lbs.	20	0.18 lbs.	1.7 lbs.
1"	150 lbs.	24	0.24 lbs.	2.4 lbs.
1½"	100 lbs.	58	1 lb.	12.2 lbs.
1½"	150 lbs.	72	1.58 lbs.	16. lbs.
2½"	100 lbs.	76	1.76 lbs.	20. lbs.
2½"	150 lbs.	100	2.8 lbs.	39. lbs.

calculations, delivered a stream that reached 150 feet vertically. We base these data on the strength of the second test, in which the hand engine threw a stream 200 feet horizontally.

These tests were held at the City Hall, using its cupula as the target.

There are other records of streams being thrown even higher by the hand-operated units, some of which, of course, were of a later type than the Button unit you mention. Most of these were of the double-bank side-brake type.

A Correction

To the Editor:

In your Questions and Answers column in the September, 1953, issue, the following question appeared:

"Stress on an aerial ladder when a ladder pipe is used is opposite to that when the end of the ladder is resting upon a building."

The answer was given as "True."

I would appreciate an explanation of this. If you were referring to the ladder itself, it would appear to me that the stream would be in the same direction. In either instance, the ladder will tend to sag midway between the turntable and the tip of the fly.

HANNES M. ANDERSEN,
Oakland, Cal.

Answer: Reader Andersen is correct! Chalk up an error against the Editor. Stress on an aerial ladder when a ladder pipe is used is in the same direction as that when the end of a ladder is resting upon a building.

The statement then should be answered "False."

Ventilation

(*Continued from page* 403)

seeking an entrance to the paint storeroom. The crew of Ladder 2 were one flight up on the basement level. Captain McDonald and his company advanced their line to the steps leading to the upper level of the sub-basement and were abreast of Engine 8's men. Fireman William L. Pratt, temporarily detailed to Ladder 2 from Ladder 7, was in this crew, having only returned to duty following an explosion at a school fire. Because of his injury, he was ordered to remain in the apparently safe basement of the Thomas Kirkpatrick jewelry store, which was located directly over the fire, to show Rescue 1 where to cut through to ventilate the sub-basement.

Such was the layout when an explosion puffed out of the paint room. A sheet of flame roared over the heads of the men in the sub-basement and chunks of wall and ceiling tumbled down on them. Lieutenant Hartnett and Fireman Thomas Finn (Eng. 65) were killed instantly. All lights went out, leaving injured men groping in darkness, thirty feet below street level.

Choked by fumes and smoke, the less injured fire fighters attempted to locate and drag their less fortunate comrades to the street, when a second and more violent explosion blasted through the underground death chamber, scattering

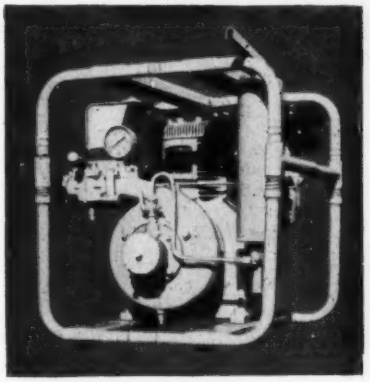
Fight Brush Fires From Moving Truck with a Hale Type FZZ PORTABLE PUMPING UNIT!

Picture below shows fire-fighter handling stream from a Hale Type FZZ Portable Pumping Unit mounted on a moving truck. An FZZ can be mounted permanently on truck or carried as a portable unit for pumping into or *from* booster tank. This portable arrangement is extremely useful both for fighting brush, field or forest fires while in motion; or for pumping from pond, stream or well direct.

An FZZ will supply from draft, 60 U. S. Gallons per minute at 90 lbs. pump pressure and up to 150 U. S. Gallons per minute at 30 lbs. It can supply two capable fire streams through 1½" lines using tips up to ⅞".

A frame-mounted FZZ (with carrying handles turned in) is pictured at right. Also available mounted on two wheels or on rubber-cushioned steel channels. Note: Discharge Adapter can be supplied for use with 2½-inch hose.

**Write today for new FZZ Folder.*
Let us know if you want a demonstration.

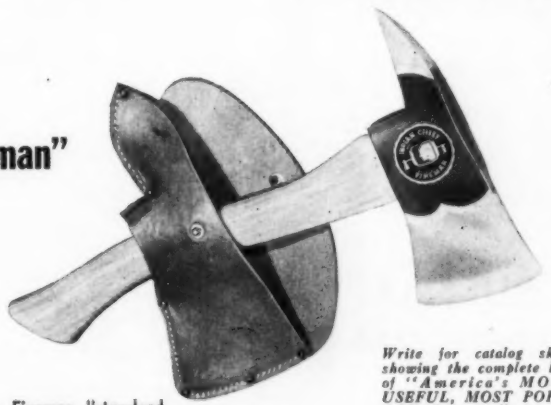


HALE FIRE PUMP CO.
Conshohocken, Pa.
Fire Pumps In All Standard Capacities

Nip Brush Fires in the Bud with a HALE FZZ

"Safety First"... and FAST!

MANN'S "Little Fireman"



You'll make your Little Fireman "standard equipment" for fire fighting. Leather-sheathed for safety, you can strap it on for instant readiness. 1½ lbs. of precision-balanced help when you're in close quarters where every second counts. Full polished head is finished in Indian Chief Red with gold trim; finest quality 15-inch white hickory handle. A precision tool in the highest MANN tradition of fifth-generation craftsmanship.

Write for catalog sheet showing the complete line of "America's MOST USEFUL, MOST POPULAR fire axes", or for the name of your nearest MANN AXE dealer. Address Dept. 554.

MANN EDGE TOOL CO., Lewistown, Pa.

. . . making America's finest quality axes since 1843

The new improved model MEMCO AERIAL LADDER is an economical all-metal ladder unit designed to be installed on existing truck or to be installed on new equipment by your fire truck manufacturer. Electrically raised and lowered by power from the truck battery.

For details write...

MEMCO AERIAL LADDER CO.

1007 N. W. 36th Street
Oklahoma City 3, Okla.

FIRE and POLICE UNIFORMS

SHIRTS
BADGES
CAPS
ACCESSORIES

RUSSELL UNIFORM
NEW YORK

RUSSELL UNIFORM CO.
192 Lexington Ave.,
New York 16, N. Y.

Please send free catalog checked below:

☐ Fire Department Uniforms and Equipment

☐ Police Department Uniforms and Equipment

Mr. .....
Address .....
City ..... Zone.... State.....

beams and hurling more debris about. The force of this blast vented itself upward through the hostway shaft and stairway. It blew gaping holes in the reinforced concrete ceiling and ruptured ammonia pipes. One fireman on the ladder in the shaft was blown clear up the shaftway onto the sidewalk. The second blast knocked bystanders on the street to the ground. The jewelry store above was wrecked and gems and silverware worth over $100,000 scattered about Park Ave.

Chief Roche ordered a second alarm and "special called" Department Ambulance 1 and Rescue 3 (Bronx). Public ambulances also were called as were additional police. Assistant Chief Thomas Dougherty responded to the second alarm.

Not one fireman of the first responding crews escaped injury or death, but 19 of the injured were able to continue duty after treatment. Lieutenant Hartnett and Fireman Finn were killed instantly. Fireman Greene (Eng. 65) died shortly after. Fireman Louis Hardina (Ladder 16) died that afternoon and Lieutenant Cosgrove (Eng. 65) and Fireman Peter A. Daly (Eng. 39) passed away later that night. Fireman Edward R. Maloney (Eng. 30) succumbed several weeks later. Fireman Pratt (Ladder 7 detailed to Ladder 2) was the last one found. His body was located under debris two hours later, and although men gave him oxygen and artificial respiration at the scene and in the hospital he could not be revived.

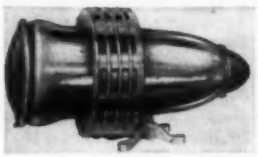
Providentially, although both blasts knocked Chief Ryan off his feet he was not seriously injured, his helmet and mask protecting his head from burns. He remained on duty and directed the fight to gain control of the fire. Captain McGinty was carried from the sub-basement with a piece of two-by-four embedded in his thigh, suffering also from burns and other injuries. He had remained to the last to help rescue his men.

This and numerous other sub-cellar fires in these supposedly "fire safe" occupancies have emphasized the serious problem of venting such below-level occupancies. Thus far, there has been no completely satisfactory answer to the problem except preventing fires in such areas. This means modern fire automatic detection and fire extinguishing systems in all such areas.

Recommendations

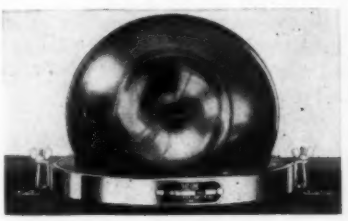
1. It is essential in all types of basement construction to provide means whereby heat and smoke of a basement fire may be vented. Some authorities recommend that two or more vent shafts be built. They should be as widely spaced as possible, preferably on opposite sides of the building, and consist of shafts, of adequate fire resistance, leading to the open air from the basement level. The shafts should be big enough—say 30 sq. ft. in cross section, to admit a fireman, and each level of basement should have its own shafts so that a fire in one will not necessarily involve another. No scientific data are yet available on which the size and position of smoke vents for a given situation may be calculated. In London, some empirical rules have been evolved by the London Common Council, which reportedly work "reasonably well" in practice. An important point is that the external ends of the smoke shafts should be so

SIRENO (TRADE MARK)



"ATOMIC" ROCKET
THE LARGEST, MOST POWERFUL SIREN

Other Styles and Sizes for Every Requirement



"ROCKET-RAY"
360 DEGREE FLASHING RED WARNING LIGHT

The SIRENO COMPANY, Inc.
Dept. 27—214 WILLIAM ST., N.Y. 38, N.Y.

A New RATCHET HYDRANT WRENCH

REQUIRES ONLY 4" SWING!

Opens any Hydrant or Gated Hydrant FASTER—EASIER *in a matter of seconds.*

•

FIREMEN PRAISE New Ratchet Principle

"It's the fastest, most convenient Wrench ever devised"—"The short 4" swing is wonderful to get into hard-to-reach places." "Your new Ratchet Wrench has been a life saver on many occasions."

• • •

Pentagon heads obtainable in following sizes—1¼"—1½"—1¾"—2", all adjustable down to one inch.

Send in your order today. Money back guarantee.

P. O. Box 921 **THE S-T HYDRANT WRENCH CO.** HOLYOKE, MASS.

designed and marked as to be readily found by firemen.

2. Install automatic fire detection, alarm transmission and extinguishing systems in all critical sub-surface areas, particularly, where channels of ventilating are limited, and/or hazardous combustibles are stored therein.

3. Provide auxiliary lighting for these areas.

4. Mark storage closets clearly to indicate contents (acquaint all watchmen and other building employees with such contents, their location and means of reaching them).

5. Buildings of any magnitude and all structures containing hazardous below-street-level storages, or which offer special problems of ventilation and fire attack, should have ground floor plans showing all important construction features, including means of entrance and exit, fuel storages, gas and electric shut-offs, fire protection and equipment, vents and drains, and so on, which should be available to the fire department. Just as hotels in many states are required to furnish floor plans, showing exits, etc. on every floor, so these and other structures wherein there exist life or property fire hazards, should provide basement and sub-basement diagrams for use of the fire service. Copies of these should be posted not only in the areas concerned, but should be available at some other remote point above ground, not likely to be affected by a basement fire.

6. Periodical inspections should familiarize at least members of first-due fire companies with all such occupancies and keep them posted on structural and other alterations, changes in storage, etc.

7. Proper fire extinguishing equipment should be provided for all such areas and their locations indicated on diagrams and made known both to employees and fire forces.

Anchorage Hospital Fire

(*Continued from page* 406)

The nurse who died, a captain by rank, only recently arrived at the Base, apparently became confused in the rush to leave the south end door of the nurse's quarters. All other exits were blocked by flames. An observer said she could have escaped by dropping four feet from a window but chose the door exit, and was overcome by the intense smoke.

The three building sections lost in the fire included the hospital's officers' club and a part of the adjacent barracks occupied by the nurses.

The fire was discovered at 4:50 A.M. by two nurses and an airman, who spread the alarm and started evacuation. Paul W. Johnson, Assistant Fort Richardson Fire Chief, the first fire officer on the scene, said the wing was fully involved by wind-fanned flames when his force of three pumpers arrived. He said the unharmed nurses told firemen the nurse who died, and perhaps two others, were trapped in the building section and Johnson sent in men equipped with smoke masks to search for them. They were at first turned back by heat and other conditions, but 20 minutes later found the one nurse who was overcome, and removed her body.

Fire Chief Samuel Huxley of Fort Richardson was in charge of fire fighters, aided by crews from two Elmendorf Air Force Base pumpers. It is reported 85 regular firemen fought

Protect your men with light!

FAIRBANKS-MORSE

Portable Power Generators

let you take life-saving light and power any place where fire or disaster calls your department!

Fairbanks-Morse power generating sets are available in portable models from 600 to 1800 watts; in mobile units (portable by 4 men) from 3000 to 5000 kw.; and in stationary models for a battery of floodlights mounted on special trucks, from 10 to 40 kw. Generators are available in both AC and DC, and most models give you a choice of starting methods. For catalog and complete details, write Fairbanks, Morse & Co., Chicago 5, Ill.

FAIRBANKS-MORSE

a name worth remembering when you want the best

WATER SYSTEMS • GENERATING SETS • MOWERS
HAMMER MILLS • MAGNETOS • PUMPS • MOTORS
SCALES • DIESEL LOCOMOTIVES AND ENGINES

LEONARD
ROTARY GEAR
PUMP

A new, better, APPARATUS PUMP!

Rhode Island Forest Service is pleased with performance of 15 Leonard Pumps now in service. They deliver 150 GPM at 150 lbs. Specify LEONARD on new apparatus or replacement. Write for data.

National Distributor

AMERICAN FIRE EQUIPMENT CO.

717 BOYLSTON STREET, BOSTON 16, MASS.

SPECIAL BINDERS AVAILABLE

Every issue of FIRE ENGINEERING has something in it that you want to keep for future reference. If you have one of our standard handy binders, you will have every article at your fingertips and a complete yearly index of everything we have published. The binder holds 24 issues and two yearly indexes.

Price $3.00

CASE-SHEPPERD-MANN PUBLISHING CORPORATION

24 West 40 St., New York 18, N. Y.

Rate $8 per inch less 10% for three or more consecutive insertions.

Classified Advertisements

Closing date for copy 25th of month preceding date of issue.

! FIRE HOSE SALE !
LOOK . . . LOWER PRICES THAN OUR LAST LISTINGS

UNUSED SURPLUS

1½"x50' SJ CRL fire hose, unused but soiled	$ .26 ft. cpld.
2½"x50' SJ CRL fire hose, unused but soiled	.44 ft. cpld.

UNUSED & CLEAN FACTORY PACKED

1½"x50' SJ CRL fire hose	$ .40 ft. cpld.
2½"x50' SJ CRL fire hose	.64 ft. cpld.
2½"x10' Hard suction hose	14.50 lgth cpld.
1"x50' Booster hose	.30 ft. cpld.
4"x10' DJ soft suction hose w/4½" cplgs long handle females	16.50 lgth. cpld.
1½" Suction hose	.75 ft. cpld.
1½"x50' Rubber covered water hose	.50 ft. cpld.
2½"x50' Rubber covered water hose	.90 ft. cpld.
1½"x25' Rubber covered water hose	10.00 lgth. cpld.
Wrecking bars, steel, heavy duty	2.50 ea.
Mechanical foam playpipes, Phoenix (Leading Manufacturer) (Cost $50.00 each)	8.50 ea.
2½" Nozzle holders	.95 ea.

SPECIAL OFFER

Just Received

1½" Fog nozzles, Brass, 3 position-leading brands, unused cased perfect condition ..... 29.50 ea.

IMMEDIATE DELIVERY

TOWSON HOSE & RUBBER CO.
104 West Joppa Road
Baltimore 4, Md.
Phone VAlley 3-1672

FIRE EQUIPMENT DEALERS ATTENTION

Nationally Known Manufacturer of Fire Helmets has territories available in all States.

Write—Box 120, c/o FIRE ENGINEERING, 24 West 40th Street, New York 18, New York.

CITY SERVICE TRUCK FOR SALE

1935 SANFORD

237 ft. of Ladders — New Tires
Half Fold Life Net
Pike Poles — Axes — Tin Roof Cutter
Wall Pick — Electric Hand Lights
CO_2 Extinguisher — 1,037 Miles

Any Reasonable Offer Will Be Considered.
Truck may be seen at
CITY HALL, NORWICH, N. Y.

Further information may be obtained from
Chief John J. Brennan.

FIREMAN SAVE THAT BOOT!!
ATTENTION ALL FIRE DEPTS.

BLACK RUBBER and TURNOUT COATS FACTORY REPAIRED
TORN BOOT TOPS REPLACED.
—15 inches up from center seam, $4.25 pair.
SAVE MONEY. ALL WORK GUARANTEED.
We pay return parcels post.

GODFREY RUBBER CO., Inc.
32 Union Square East, New York 3, N. Y.

AMBULANCES

1950 Cadillac Superior Bodies, two available, excellent condition, fully equipped, $3650.00 each. 1947 Cadillac Ambulance, Superior Body, need small amount of work, not wrecked, $850.00. Photos of each available. Write Box 130, c/o FIRE ENGINEERING, 24 West 40th St., New York 18, New York.

WANTED
PYROBLENDER DISTRIBUTORS

CHANGE IN SALES POLICY
OPENS UP TERRITORIES
IN ALL PARTS OF U. S.
LIBERAL COMMISSION
ARRANGEMENT.

SEE OUR AD ON PAGE 444.

AQUADYNE CORPORATION
441 Lexington Avenue
New York 17, New York

FOR SALE

Bids being received
1927 American-LaFrance, 6 cylinder 750 G.P.M. Pumper, 60 Gallon Booster Tank. Further information on request.

NEWTON FIRE DEPARTMENT
Newton Centre, Massachusetts

AMBULANCES FOR SALE

1953 HENNEY-PACKARD (demonstrator)
1942 HENNEY-PACKARD
1942 FORD

COACH AND EQUIPMENT SALES CORP.
2 Main Street — Penn Yan, N. Y.
New York Distributor
HENNEY-PACKARD AMBULANCES
Sr. and Jr. Models
Complete service including body and chassis

PLASTIC SALVAGE TARPS

1/2 the Cost
1/6 the Weight

PLASTIC ENGINEERING CO.
3128 E. Admiral Pl.
Tulsa, Okla.

FOR SALE

49—Famous Make Pumps
500 GPM—Like New
Government Surplus
Individually Boxed
$250 Each

BILL THOMSON'S
Newington, Conn.
MOhawk 6-4741

FIRE HOSE SALE
1½" DOUBLE JACKET
OUR BEST $ $ $ VALUE TO DATE
50 FT. LGTHS. CPLD. NST OR IPT

Just received a special lot of 200 selected lengths. Hose is soiled but in excellent working condition. 400 lb. test type hose.

WHILE IT LASTS, ONLY
$ .45 FOOT CPLD.

TOWSON HOSE & RUBBER CO.
104 West Joppa Road
Baltimore 4, Maryland
Phone VAlley 3-1672

WANTED TO BUY

Two (2) early Fire Department lanterns, tank in base, long bail. Also, solid bronze eagle. Box #125, c/o FIRE ENGINEERING, 24 W. 40th St., New York 18, N. Y.

FOR SALE

1931 American LaFrance Combination with the following qualifications: 100 GPM American LaFrance water pump; 200 gal. booster tank; reel in the rear for booster line; 1 12-foot hook ladder; 1 24-foot extension ladder; windshield.

Hose body capacity, 650' of 2½" hose and 400' of 1½" hose; 3 storage compartments.

2 2½" hard suction hose, each 10' long for drafting.

Apparatus may be seen at convenience of anyone wishing to inspect it. Bids accepted by June 30, 1954.

NARBETH FIRE COMPANY
Narbeth, Montgomery Co., Pennsylvania

ATTENTION FIRE FIGHTERS AND BUFFS

Authentic Early American Fire Apparatus reproduced on 5¼" round white china ashtrays. 4 designs featuring old favorite HAND & HORSE drawn apparatus—$1.50 ea. post paid. Quantity prices on request.

BARCLAY G. McKEOUGH
43 Riverview Avenue
Ardsley, New York

APPLY IMMEDIATELY

Ground floor opportunities as sales representative with Notifier's latest Underwriters' listed equipment. Fully automatic supervised systems signaling from protected property into fire station.

Visit our factory
or write now!
Dept. C

NOTIFIER MANUFACTURING CO.
239 South 11th St.
Lincoln, Nebraska

The VISITING FIREMAN

Annual handbook for firefighter-hobbiests and buffs. 128 PAGES ● 15 FEATURES ● ILLUSTRATED
Fire Record Forms; List of Fire-hobbiests; Ham Radio; Swappers; Model Making; Fire Photo Contest; Articles on Old and Modern Departments. Pocket size. $1.50, postage paid.

JOE HALLETT Box 358, NORWELL, MASS.

SEAGRAVE PUMPER FOR SALE

1938 500 G.P.M. Custom Built Fully equipped hose, nozzles, extinguishers, etc.—2,838 actual miles. Excellent condition.
Contact:

W. M. FANKHAUSER
Perry Township Clerk
Perry, Ohio
Lake County

FOR SALE

1950 Cadillac Meteor Ambulance.....3450
1947 Cadillac, Miller Ambulance.....1150

FORDHAM AMBULANCE
272 West Fordham Road
Bronx 68, New York

DANDUX

SALVAGE COVERS

- LIGHT WEIGHT—pliable
- MEET SPECIFICATIONS of NATIONAL BOARD FIRE UNDERWRITERS
- FIRE, WATER, and ROT resistant
- 3 sizes • 4 weights

C. R. DANIELS, Inc.

NEW YORK 6, N. Y.
75 West Street

CHICAGO 6, ILL.
549 W. Randolph St.

DALLAS 1, TEX.
2109 Commerce St.

BOSTON 16, MASS.
25 Huntington Ave.

PORT WASHINGTON

FIRE DEPT.

Get

to the fire safely

with this new license plate sign that *stays reflective, day or night!*

These durable, trouble-free "Firefly" signs are heavy aluminum plate with reflective "scotchlited" surface, yet so inexpensive that they should be used on every one of your vehicles.

Available in "Fire Chief," "Asst. Fire Chief," "Fire Company," "Fire District," "Fire Police," "Fire Capt.," "Fire Warden," "Fire Marshal," and in four different shapes. Also scotchlite emblems to apply directly to bumper, etc. See your Dealer, or Write to

PACIFIC REFLEX SIGNS

Box 323, McMinnville, Oregon

the blaze, assisted by 100 soldiers on standby duty from Fort Richardson. While the military fire fighters were in operation, their stations were covered by the Alaska Railroad and City of Anchorage Fire Departments.

From information furnished by Chaplain (Major) Norris T. Morton.

21 Firemen Hurt in Brooklyn Warehouse Fire

(*Continued from page* 407)

said it might have been caused by a kerosene stove or by a carelessly discarded cigarette.

Fire Chief Peter Loftus was in charge of fire fighting operations. Edward F. Cavanagh, Jr., also was present.

Response assignments for this fire were as follows:

1st Alarm—Box 1379 at 10:30 A.M.; Summit and Commercial; (also four telephone calls).

Eng. 202-203-204-57 (Boat); Lad. 101-131; Div. 10 (Connelly); Batt. 32-48 (A. B. Chs. Neilan and Tweedale), Borough Chief Daniel Deasy.

Second alarm was skipped. Third Alarm at 10:44 A.M.—33-1379—Chief Peter Loftus and Thomas O'Brien.

(Second alarm assignment) — Eng. 279-224-239-77-(Boat); Res. 2; Lad. 110; Wat. Tow. 6. Change locations: Eng. 278/202—256/204—205/224; Lad. 119/110—105/131.

Third alarm—Eng. 207-226-220-269-223 (Boat); Lad. 122; Batt. 40; Fuel 14. Fifth alarm at 10:59 A.M.—55-1379—Eng. 228-280-235-211-10; Lad. 15. Changing location: Eng. 247/228—234/280—252/235—221/211.

4:01 P.M. Signal 9-1379-22 (Searchlight).

4:28 P.M. Signal 9-1379-23 (Searchlight from the Bronx).

Several other boxes were pulled during the course of the fire. Fire alarm crew (Brooklyn Fire Alarm Office) were Supervising Eng. Jordan in charge, also Messrs. Kostka, Allen, Heitowit, Clark, McFeeley and Lawrence. Telephone: Poppert.

Award for Death of Chief

Payment of $6,000 by the Empire Realty Corporation, of Bridgeport, Conn., terminated the $50,000 damage action resulting from the death of Fire Chief Martin J. Hayden, of Bridgeport. Trial of the action in Superior Court concluded on Feb. 24 as a result of the settlement.

Chief Hayden was injured fatally in a fall on Dec. 6, 1952, while directing fire fighters battling a blaze in a condemned tenement building in Bridgeport, owned by the Empire Corporation. Suit was by Lillian E. Hayden, widow of Chief Hayden and executrix of his estate.

TOM MAGNER.

Fire Truck Victim in Grass Fire

The Rogers, Ark., Fire Department was fighting a grass fire last month when something went wrong and the truck caught on fire.

Two resultant explosions in the apparatus enveloped the vehicle in flames. Fire Chief Frank Jacobs and his crew stood by helplessly while the truck became a mass of twisted steel.

SMOKE DRILLS

are necessary to maintain efficiency and reduce the hazards of fire fighting.

SMOKE CHAMBERS are not necessary for smoke drills. Any room can be used for training firemen, emergency and civilian defense units in safe procedures and using artificial breathing apparatus in dense blinding smoke. Simply ignite a **SUPERIOR GRAY SMOKE BOMB** in the room, and in a matter of seconds, the room is filled with thick gray smoke, simulating actual fires. This smoke is safe. It does not leave a residue covering walls and smudging clothing. When finished, merely ventilate the room, and like magic, the room is reconverted to its original use. The **SUPERIOR GRAY SMOKE BOMB** is so inexpensive that every fire department can afford smoke drills until top efficiency is achieved and maintained. The **SUPERIOR GRAY SMOKE BOMBS** are..... **$7.20** per dozen.

Satisfaction guaranteed or money promptly refunded.

SUPERIOR SIGNAL COMPANY

6 Colfax Street, South River, N. J.

BODY-GUARD

BUNKER SUITS

FOR COMFORT & PROTECTION

WE ARE DISTRIBUTORS FOR

SIREN BOOTS

We have been supplying **FIREMEN'S CLOTHING** for over 25 years.

Any fireman can have a catalog by writing —

BODY-GUARD MANUFACTURING CO.

ST. JOSEPH • • MISSOURI

You should own a handsome MINIATURE Fire Fighter's Badge

Whether you are a "Regular" or a "Volunteer" a miniature badge is a must for off-duty recognition. Carry your miniature with pride, it's a small token of your contribution to your community.

Contact your Blackinton Badge Dealer today and ask him to show you actual badge samples.

Most of the popular miniature styles are also available in regulation size badges. Miniatures have solid backs.

Blackinton has the largest selection of miniature badges in the country

BLACKINTON

V. H. BLACKINTON & CO., INC.

ATTLEBORO FALLS, MASS.

ADVERTISING INDEX

FIRE ENGINEERING

MAY, 1954

	Page
Aluminum Ladder Co.	445
American Fire Equipment Co.	449
American LaFrance-Foamite Corp.	377
American-Marsh Pumps, Inc.	368
American Rubber Mfg. Co.	387
Ansul Chemical Co. Fire Extinguisher Division	*Inside Back Cover*
Aquadyne Corporation	444
Atlas Safety Equipment Co., Inc.	446
Audio Equipment Co., Inc.	445
Bar-Way Mfg. Co.	437
Bean Div. John; Food Machinery & Chemical Corp.	374
Blackinton & Co., Inc., V. H.	452
Blitz Buggy Co., The	443
Boardman Co., The	389
Body Guard Mfg. Co.	451
Braxmar Co., C. G.	438
Buffalo Fire Appliance Corp.	429
Bullard Co., E. D.	436
C-O-Two Fire Equipment Co.	380
Cairns & Bro.	425
Circul-Air Corp.	443
Cornelius Co., The	439
Daniels, Inc., C. R.	451
Darley & Co., W. S.	430
Dayton Fire Equipment Co.	442
DuPont DeNemours & Co., E. I.	373
E & J Manufacturing Co.	382
Eastman Co., Samuel	440
Elkhart Brass Mfg. Co., Inc.	371
Emerson Co., J. H.	*Inside Front Cover*
Eureka Fire Hose; Div. of U. S. Rubber Co.	413
Everson-Ross, Inc.	442
Fabric Fire Hose Co.	367
Fairbanks, Morse & Co.	449
Federal Sign & Signal Corp.	365
Four Wheel Drive Auto Co.	*Back Cover*
Fulton Bag & Cotton Mills	424
Fyr-Fyter Co.	427
Gamewell Co.	392
Globe Mfg. Co.	439
Goodrich Co., B. F.	369
Hale Fire Pump Co.	441; 447
Hannay & Son, Inc., Clifford B.	381
Harodikes, Inc.	437
Hewitt-Robins, Inc.	390
Homelite Corp.	415
Industrial Safety Specialties Co.	432
International Harvester Co.	370
Janesville Apparel Co.	446
Johnson Motors	388
Leece-Neville Co.	391
McIntire Brass Works, F. N.	442
Mann Edge Tool Co.	447
Marine Products Co.	433
Maxim Motor Co.	372
Memco Aerial Ladder	448
Midwestern Mfg. Co.	376
Mine Safety Appliances Co.	379
Motorola, Inc.	375
Mueller Co.	434
National Foam System, Inc.	386
Oberdorfer Foundries, Inc.	435
Onan & Sons, Inc., D. W.	416
Oren Roanoke Corp.	420
Pacific Marine Supply Co.	426
Pacific Reflex Signs	451
Powhatan Brass & Iron Works	422
Quaker Rubber Corp., Div. H. K. Porter Co., Inc.	417
Republic Rubber Div., Lee Rubber & Tire Corp.	384
Rockwood Sprinkler Co.	383
Russell Uniform Co.	448
S-T Hydrant Wrench Co., The	448
Scott Aviation Corp.	418
Seagrave Corp., The	385
Sireno Co., Inc.	448
Smith & Co., D. B.	421
Stephenson Corp.	433
Sterling Siren Fire Alarm Co., Inc.	430
Stewart-Warner	441
Super-Vacuum Mfg. Co.	434
Superior Signal Co.	451
Thiele & Sons, Inc., W. J.	428
U-C Lite Mfg. Co.	444
Unox Co., Div. McFarland Mfg. Corp.	440
W-B Manufacturing Co.	431
Ward LaFrance Truck Corp.	378
Waterous Company	423
Wentworth-Forman Co., Inc.	442
Wooster Brass Div., Fyr-Fyter Co.	435

FASTER

MORE EFFECTIVE... MORE DEPENDABLE

FIRE-STOPPING POWER

MODEL 20-B

ANSUL
Chemical Company
FIRE EQUIPMENT DIVISION • MARINETTE, WISCONSIN

ANSUL

FIRE EXTINGUISHING EQUIPMENT

FASTER . . . A short, quick downward motion of the puncture lever pressurizes the extinguisher and it is ready for instant use.

MORE EFFECTIVE . . . Even the inexperienced operator gets near-expert results because of the ease of operation and handling. In addition ANSUL *"PLUS-FIFTY"* Dry Chemical has greater fire-killing power.

MORE DEPENDABLE . . . Exclusive ANSUL-ENGINEERED design features include water-tight and corrosion-resistant construction, easy, on-the-spot recharge without special tools and other exclusive Ansul developments which insure greater dependability.

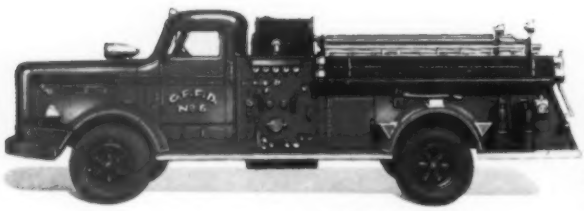
FIRE-STOPPING POWER . . . ANSUL FIRE EXTINGUISHERS have the highest ratings for fire-stopping power ever awarded any type of class B and C fire extinguishing equipment.

Send for File No. B-216. You will receive a variety of helpful printed matter. Included is our latest catalog which describes Ansul Extinguishers of all sizes — from the small Ansul Model 4 to Ansul Piped Systems and Ansul 2000 lb. Stationary Units.

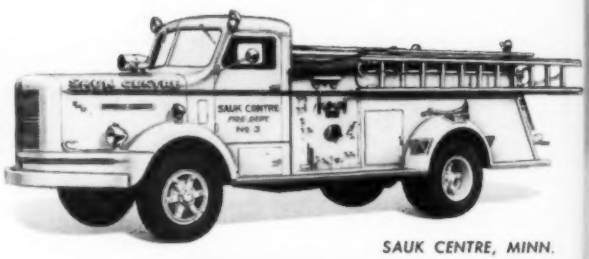
OFFICES AND DISTRIBUTORS IN PRINCIPAL CITIES IN THE U. S. A., CANADA AND OTHER COUNTRIES

MANUFACTURERS OF
DRY CHEMICAL FIRE EXTINGUISHING EQUIPMENT, REFRIGERATION PRODUCTS, INDUSTRIAL AND FINE CHEMICALS AND LIQUEFIED GASES

Four more Northern communities choose



GRAND FORKS, N D



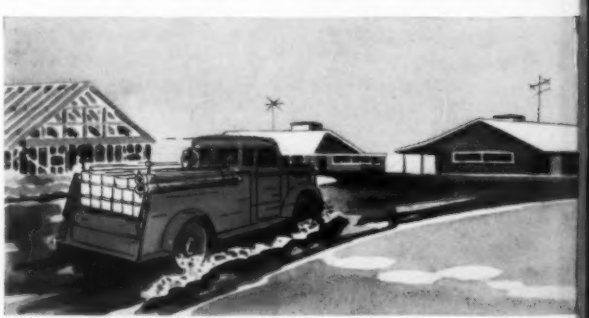
SAUK CENTRE, MINN.

DULUTH, MINN

CITY OF WORTHINGTON, MINN

Terrific in Traffic!

In the heart or on the outskirts, your community can be *better* protected by FWD engines. Top-grade equipment *and the ability to get it on the spot in a hurry* give your men the support they *deserve* in the hard, dangerous job of fighting fire. Greater controllable traction, with four wheels powered *all* the time, permits higher *average* speeds without increasing *maximum* m.p.h. This gives you speed *plus* safety in city streets, gets you through snow or the stickiest gumbo in unpaved sub-divisions. Skids, spins and round-house swings eliminated, for *all* wheels drive, turn corners and brake. Find out *today* why Fire Chiefs all over America insist on FWD!



AMERICA'S FWD SAFEST FIRE-FIGHTING APPARATUS

Ask for your copy of "FWD Fire Engines": photos and descriptions of FWD equipment carefully chosen by communities all over the country. Let it help you make your choice!

FWD Fire Engines

THE FOUR WHEEL DRIVE AUTO CO., CLINTONVILLE, WIS., *Canadian Factory,* KITCHENER, ONT.